SAMSUNG

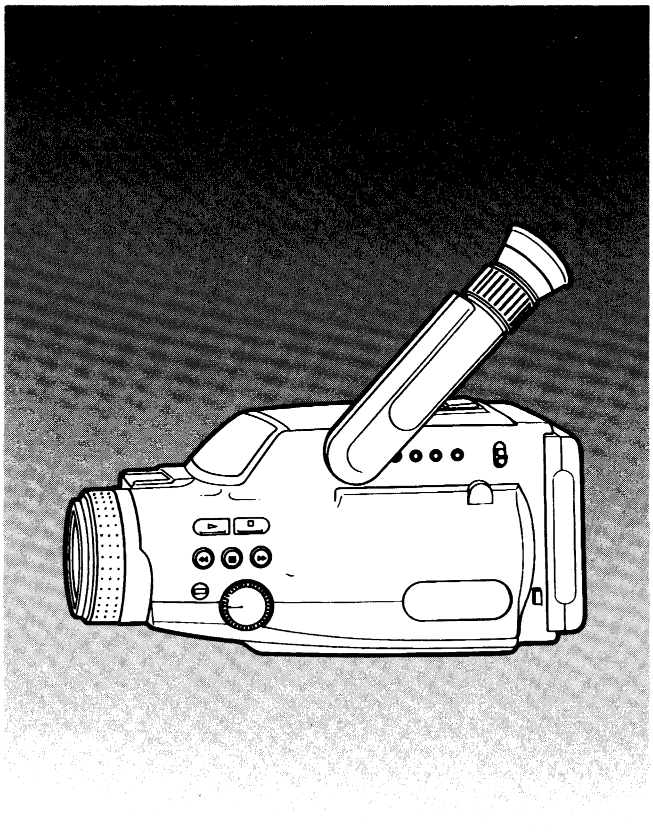
# 8mm CAMCORDER

## VP-U10

8

# SERVICE Manual

## 8mm CAMCORDER



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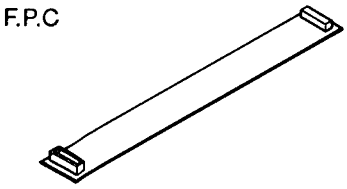
# SERVICING JIGS

| Part NO. | JIG ITEM | SPECIFICATION | DESCRIPTION | | | REMARKS |
|---|---|---|---|---|---|---|
| | | | Main Board | Process Board | CCD Board | |
| 68140 - 500 - 007 | Extension Cable 1 | Pin 30 | CN503 ◄ | ► CNP03 | | Troubleshooting |
| 68140 - 500 - 008 | Extension Cable 2 | Pin 30 (2EA) | | CNP01 ◄<br>CNP02 ◄ | ► CND03<br>► CND04 | Troubleshooting |
| 68140 - 200 - 113 | Guide Roller Adjusting Driver | - | ; Use for height adjustment of Guide Roller for envelope linearity adjustment. | | | For transport adjustment |
| 68140 - 500 - 010 | TP Board | - | ; Use for adjustment of VCR Section. (Connect TP board to connector TP102 of Main board) | | | For VCR section adjustment |
| 68140 - 200 - 122 | Video Signal Input Cable | - | ; Use for color bar signal input cable of connector V-IN of TP board. | | | For VCR section adjustment |

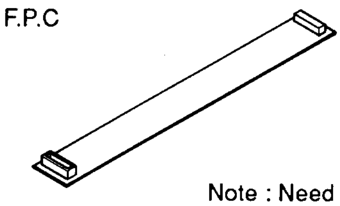
**68140 - 500 - 007**

**Extension Cable 1**



**68140 - 500 - 008**

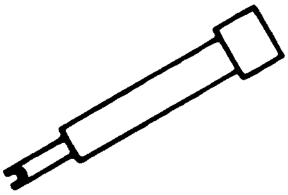
**Extension Cable 2**



Note : Need two (2)

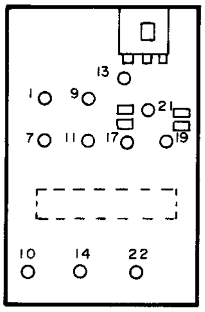
**68140 - 200 - 113**

**Adjusting Driver**



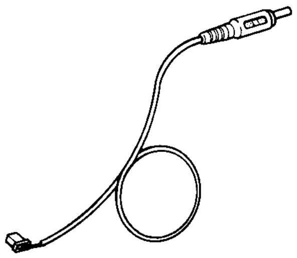
**68140 - 500 - 010**

**TP Board**

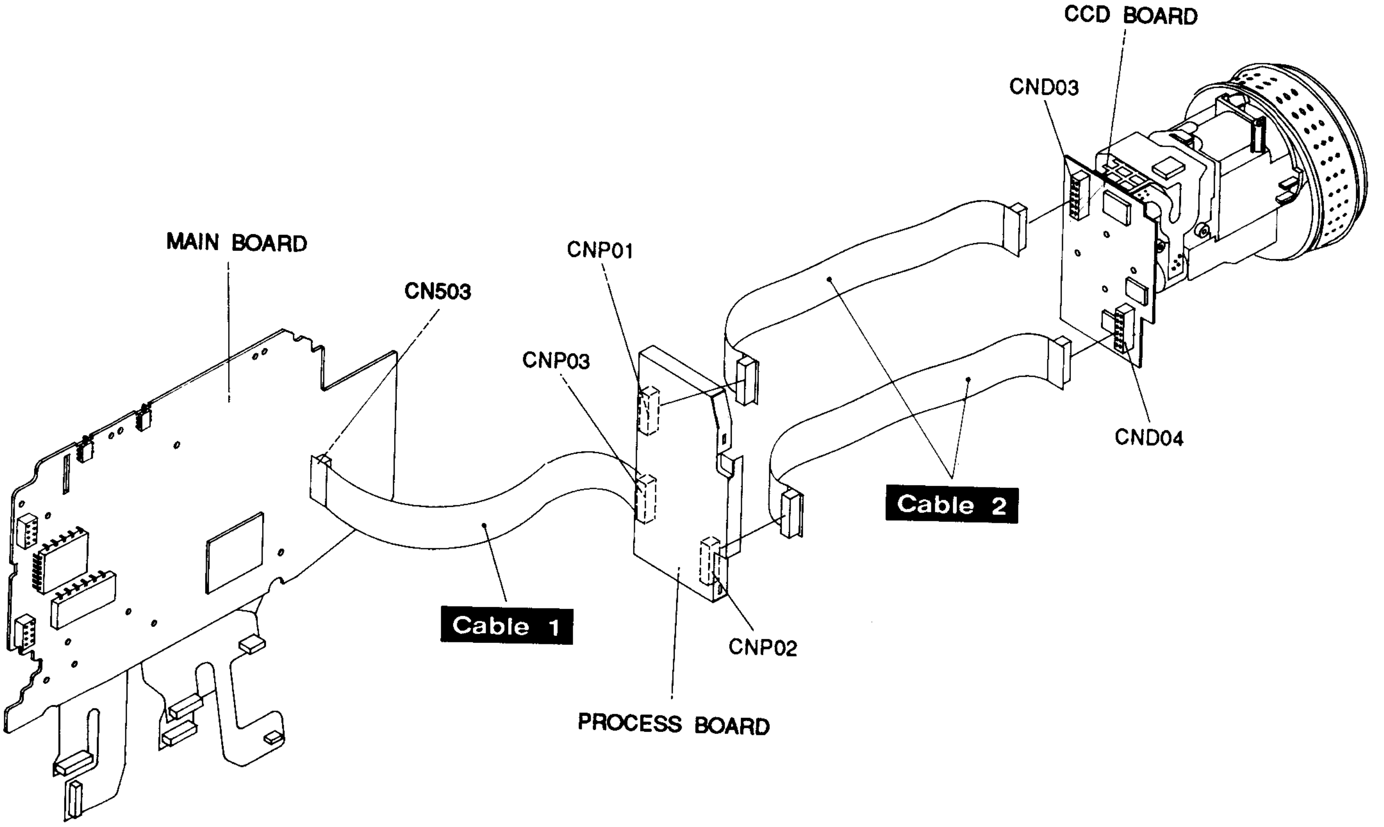


**68140 - 200 - 122**

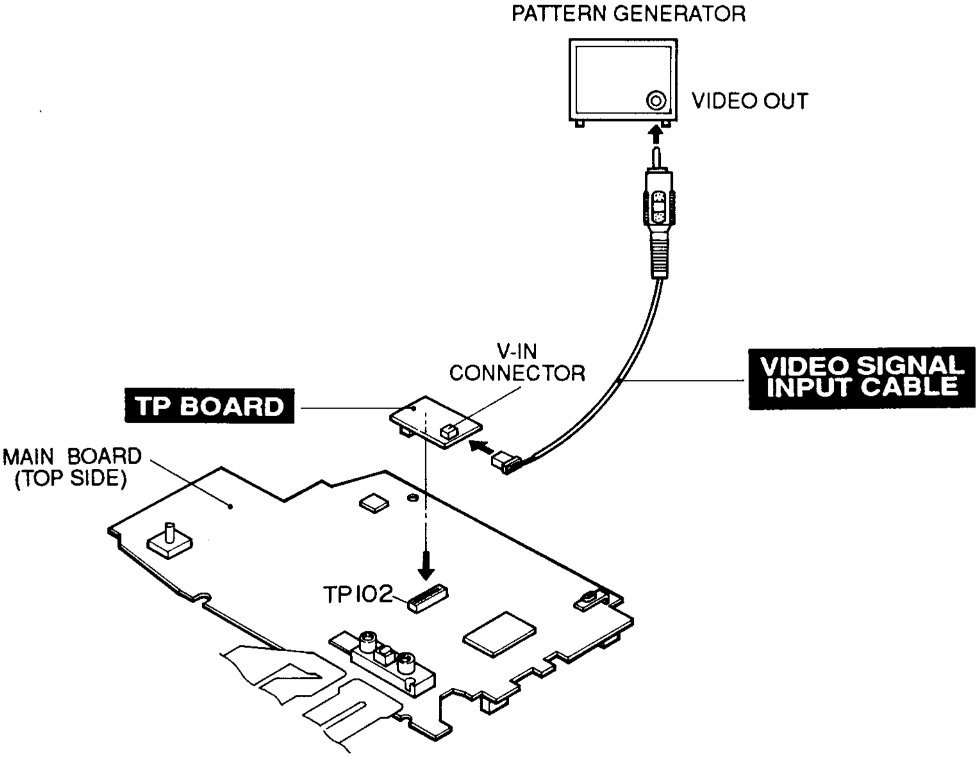
**Video Signal Input Cable**



## Extension Cable Connections


CCD BOARD
CND03
MAIN BOARD
CNP01
CN503
CNP03
CND04
Cable 2
Cable 1
CNP02
PROCESS BOARD

## TP Board & Video Signal Input Cable Connections


PATTERN GENERATOR
VIDEO OUT
V-IN
CONNECTOR
VIDEO SIGNAL
INPUT CABLE
TP BOARD
MAIN BOARD
(TOP SIDE)
TP102

# 1. PRECAUTIONS

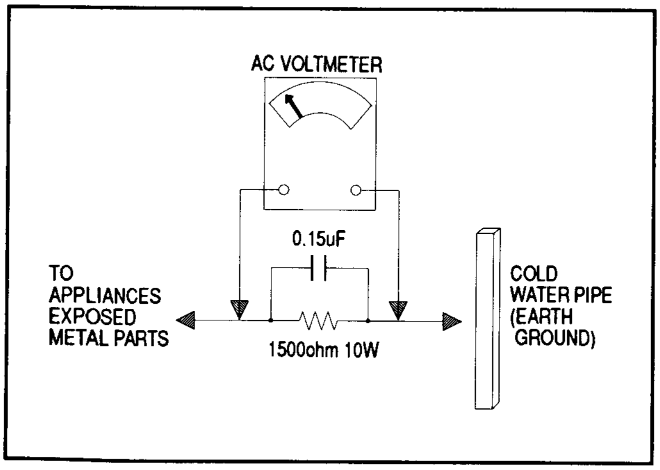
## 1-1. SAFETY PRECAUTIONS

### GENERAL GUIDE LINE

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation paper shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.
4. Use a separated isolation transformer for this unit when servicing.

### LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screw heads, connectors, control shafts, etc.
   When the exposed metallic part has a return path to the chassis, the reading should be between 1m and 5.2m.
   When the exposed metal does not have a return path to the chassis, the reading must be oo.



### LEAKAGE CURRENT HOT CHECK (See Fig.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect an 1.5K, 10 watt resistor, in parallel with a 0.15uF capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in figure.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester may be used to make the hot checks, leakage current must not exceed 0.5 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

## 1-2. ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called "Electrostatically Sensitive (ES) Devices". Examples of typical ES devices are integrated circuits, some field effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals.
   These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise, harmless motion such as the brushing together of your clothes fabric to the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

## 1-3. SAFETY INSTRUCTIONS

1. **Read Instructions** : All the safety and operating instructions should be read before the CAMCORDER is operated.

2. **Retain Instructions** : The safety and operating instructions should be retained for future reference.

3. **Heed Warnings** : All warnings on the CAMCORDER and the operating instructions should be adhered to.

4. **Follow Instructions** : All operating and maintenance instructions should be followed.

5. **Cleaning** : Unplug this CAMCORDER from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a dry cloth for dusting cabinet.

6. **Attachments** : Do not use attachments not recommended by the CAMCORDER product manufacturer, as they may be hazardous or cause damage.

7. **Water and Moisture** : Do not use this CAMCORDER near water, i.e, bath tub, wash bowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, or the lake.

8. **Accessories** : Do not place this CAMCORDER on an unstable cart, stand, tripod, bracket, or table. The CAMCORDER, if dropped could cause damage or injury. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the CAMCORDER. Any mounting of the unit should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.

a. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surface may cause the appliance and cart combination to overturn.

**PORTABLE CART WARNING**
(Symbol provided by RETAC)

9. **Ventilation** : Slot and opening in the cabinet are provided for ventilation to ensure reliable operation of the CAMCORDER and to protect it from overheating. These openings must not be blocked or covered. Never place your CAMCORDER on a bed, sofa, rug, or other similar surface on or near a radiator or heat register. This CAMCORDER should not be placed in a built-in installation such as a book case or rack unless proper ventilation is provided or manufacturer's instructions have been adhered to.

10. **Power Sources** : This CAMCORDER should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. To operate the CAMCORDER by battery or other power source, consult the operating instructions.

11. **Grounding and Polarization** : This CAMCORDER may be equipped with either a polarized 2-wire AC line plug (a plug having one blade wider than the other) or a 3-wire grounding type plug, a plug having a third (grounding) pin. The 2-wire polarized plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet,try reversing the plug. If the plug still fails to fit, contact your electrician to replace your outlet. Do not defeat the safety purpose of the polarized plug.

12. **Power-Cord Protection** : Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, especially cords of plugs and convenience receptacles, at the point where they exit from the unit.

13. **Lightning** : For added protection of this CAMCORDER during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage of the CAMCORDER from lightning and power-line surges.

14. **Power Lines** : An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits where it can fall into such power lines or circuit. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

15. **Overloading** : Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

16. **Objects and Liquids** : Never push objects of any kind into the CAMCORDER as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquids of any kind onto the CAMCORDER. Should spill occur, unplug unit and have it checked by a technician before use.

17. **Servicing** : Do not attempt to service this CAMCORDER yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service person.

18. **Damage Requiring Service** : Unplug this CAMCORDER from the wall outlet and refer servicing to qualified service personnel under the following conditions :

    a. When the power-supply cord or plug is damaged.
    b. If any liquid has been spilled into, or objects have fallen in the CAMCORDER
    c. If the CAMCORDER has been exposed to rain or water.
    d. If the CAMCORDER does not operate normally by following the operating instruction, adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the CAMCORDER to its normal operation.
    e. If the CAMCORDER has been dropped or the cabinet has been damaged.
    f. When the CAMCORDER exhibits a distinct change in performance, this indicates a need for service.

**WARNING ;**
Lithium battery - Danger of explosion if incorrectly replaced. Must only be replaced by a battery of same make and type. Used batteries shall be returned to the supplier.

19. **Replacement Parts** : When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

20. **Safety Check** : Upon completion of any service or repairs to this CAMCORDER, the safety check procedure should be performed.

**IMPORTANT SAFETY NOTICE**
There are special components in this equipment which are important for safety. These parts are marked by ⚠ in the schematic diagram, exploded views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts owing to shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

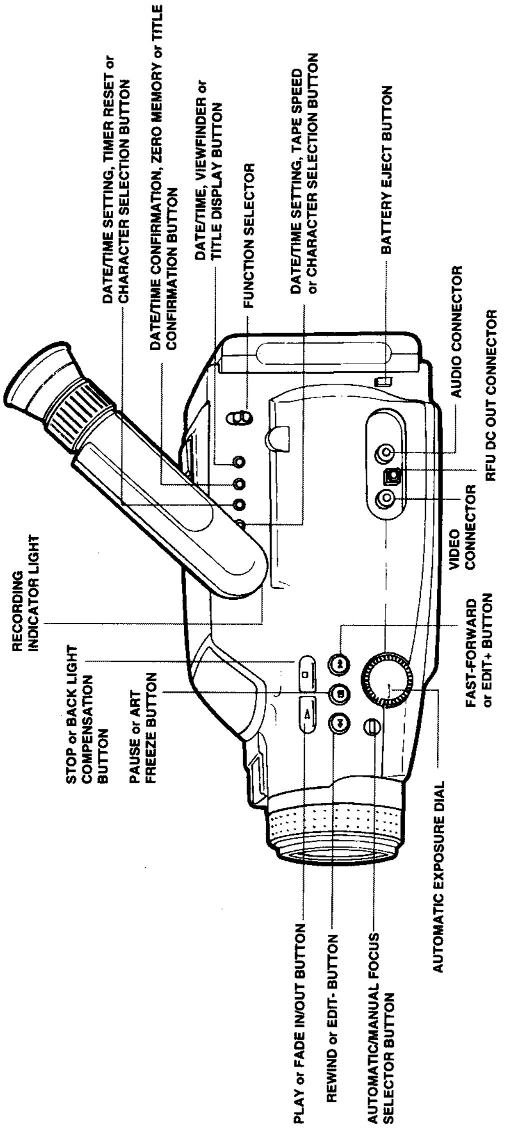
# 2. SPECIFICATIONS

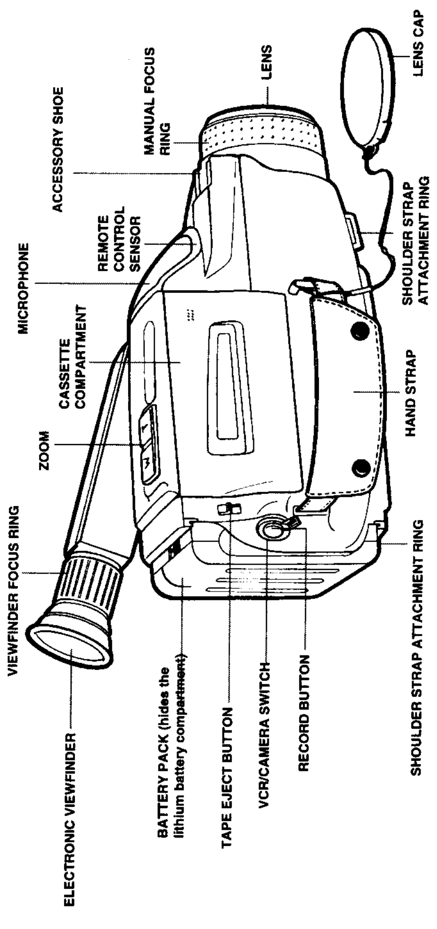
Specifications are correct at the time of printing. Product specifications are subject to change without notice.
See below for product specifications.

| Specifications | | | |
|---|---|---|---|
| Operation | Description | Operation | Description |
| Video Recording System | Rotary two heads, Helical FM scanning system | Power Requirement | AC power adaptor (7.5V)<br>Battery pack (6.0V) |
| Audio Recording System | FM system | Power Consumption | 6.3Watt (In camera mode) |
| Video Signal | PAL colour, CCIR standard | Tripod attachment thread | Attachment screw less than 9mm long |
| Cassette Format | 8mm video format cassette | Microphone | Electric condensor microphone omni-directional monaural type see page3 |
| Tape Speed | SP : Approx. 20.051 mm/sec.<br>LP : Approx. 10.058 mm/sec. | Temperature range | Operating : 0° C to 40° C (32° F to 104° F)<br>storage : -20° C to 60° C (-4° F to 140° F) |
| Recording/Playback Time | SP mode: 1 hour 30 minutes (P5-90)<br>LP mode: 3 hours (P5-90) | Dimension (W/H/D) | Approx. 100 X 105 X 236 mm (3.9 X 4.1 X 9.3 inchs),Approx. 770g (<2lb) including lens cap, excluding battery pack and cassette |
| Fast forward/Rewind Time | Approx. 5 min 40 secs. (P5-60) | Video Output | Phono jack, 1Vp-p, 75 ohms unbalanced, sync negative |
| Image Device | CCD (Charge Coupled Device) | Audio Output | Phono jack, 7.5 dBs for an output impedance of less than 2.2 kilo-ohms |
| Viewfinder | Black and White Electronic viewfinder | RFU DC OUT | Special minijack, 5V DC |
| Lens | Combined 8X power zoom lens f = 6 ~ 48mm, F1.4 with auto wide macro, Filter diameter 37mm | | |
| Auto Focus System | Inner | | |
| Color Temperature | AUTO/INDOOR 3,100° K,<br>OUTDOOR 5,100° K | | |
| Lighting | >300LUX (28 Footcandles),<br>Minimum Lighting 2 LUX | | |
| Aperture Correction | Automatic with Back light adjustment | | |

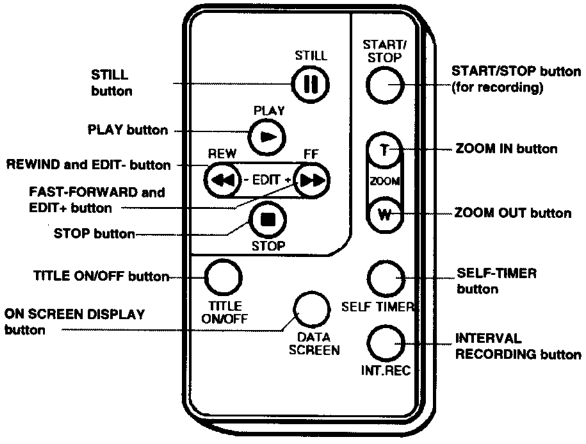
Weight and dimensions shown are approximate.

# 3. OPERATING INSTRUCTION

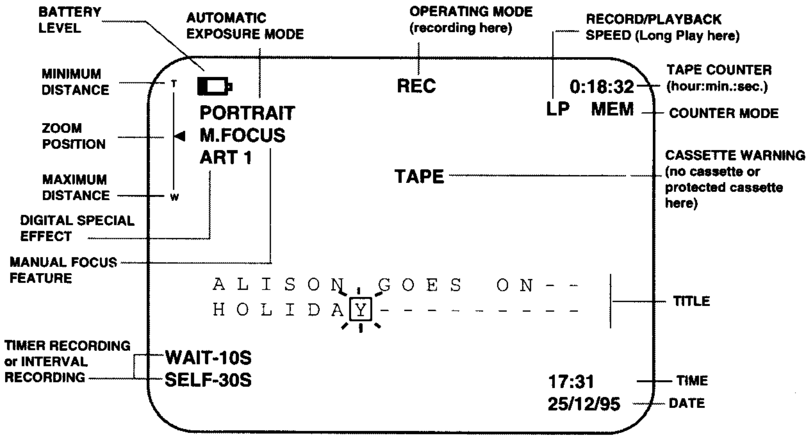

RECORDING INDICATOR LIGHT
STOP or BACK LIGHT COMPENSATION BUTTON
PAUSE or ART FREEZE BUTTON
DATE/TIME SETTING, TIMER RESET or CHARACTER SELECTION BUTTON
DATE/TIME CONFIRMATION, ZERO MEMORY or TITLE CONFIRMATION BUTTON
DATE/TIME, VIEWFINDER or TITLE DISPLAY BUTTON
FUNCTION SELECTOR
DATE/TIME SETTING, TAPE SPEED or CHARACTER SELECTION BUTTON
BATTERY EJECT BUTTON
PLAY or FADE IN/OUT BUTTON
REWIND or EDIT- BUTTON
AUTOMATIC/MANUAL FOCUS SELECTOR BUTTON
AUTOMATIC EXPOSURE DIAL
FAST-FORWARD or EDIT+ BUTTON
VIDEO CONNECTOR
AUDIO CONNECTOR
RFU DC OUT CONNECTOR


VIEWFINDER FOCUS RING
ZOOM
MICROPHONE
CASSETTE COMPARTMENT
ACCESSORY SHOE
REMOTE CONTROL SENSOR
MANUAL FOCUS RING
LENS
LENS CAP
SHOULDER STRAP ATTACHMENT RING
HAND STRAP
SHOULDER STRAP ATTACHMENT RING
ELECTRONIC VIEWFINDER
BATTERY PACK (hides the lithium battery ~~compartment~~)
TAPE EJECT BUTTON
VCR/CAMERA SWITCH
RECORD BUTTON

# Display, Remote Control and Accessories


STILL
START/ STOP
PLAY
REW
FF
EDIT
ZOOM
T
W
STOP
SELF TIMER
TITLE ON/OFF
DATA SCREEN
INT.REC
STILL button
PLAY button
REWIND and EDIT- button
FAST-FORWARD and EDIT+ button
STOP button
TITLE ON/OFF button
ON SCREEN DISPLAY button
START/STOP button (for recording)
ZOOM IN button
ZOOM OUT button
SELF-TIMER button
INTERVAL RECORDING button

REMOTE CONTROL


BATTERY LEVEL
AUTOMATIC EXPOSURE MODE
OPERATING MODE (recording here)
RECORD/PLAYBACK SPEED (Long Play here)
MINIMUM DISTANCE
ZOOM POSITION
MAXIMUM DISTANCE
DIGITAL SPECIAL EFFECT
MANUAL FOCUS FEATURE
TIMER RECORDING or INTERVAL RECORDING
T
W
PORTRAIT
M.FOCUS
ART 1
REC
0:18:32
LP MEM
TAPE
ALISON GOES ON--
HOLIDAY---------
WAIT-10S
SELF-30S
17:31
25/12/95
TAPE COUNTER (hour:min.:sec.)
COUNTER MODE
CASSETTE WARNING (no cassette or protected cassette here)
TITLE
TIME
DATE

MAIN VIEWFINDER INDICATORS

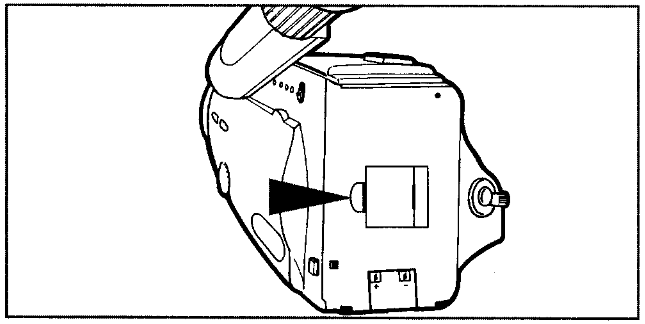
# Inserting the Lithium Batteries

*The two lithium batteries supplied (like watch batteries, reference CR-2025) last about one year. One must be inserted in the camcorder, to store the date, time and title that can be recorded on a cassette, the other in the remote control.*

*You must replace the appropriate battery if:*

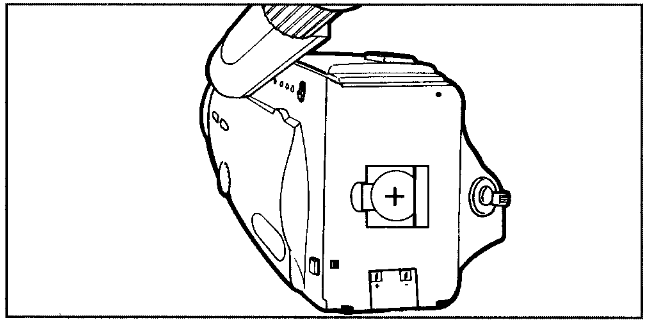
- *The date flashes in the viewfinder for about five seconds when you set the VCR/CAMERA switch to CAMERA (camcorder lithium battery)*
- *The remote control does not work correctly (remote control lithium battery)*

*NOTE* *After replacing the camcorder lithium battery, reset the date, time and title (see pages12).*



Open the battery holder on the rear of the camcorder (under the battery pack), by pushing the tab in the direction shown.

Note:
- LITHIUM BATTERY. - DANGER OF EXPLOSION IF INCORRECTLY REPLACED.
- MUST ONLY BE REPLACED BY A BATTERY OF SAME MAKE AND TYPE.
- USED BATTERIES SHALL BE RETURNED SUPPLIER.



Insert the battery, taking care to respect the polarities: the "+" on the battery must be facing upwards.

Close the battery holder.

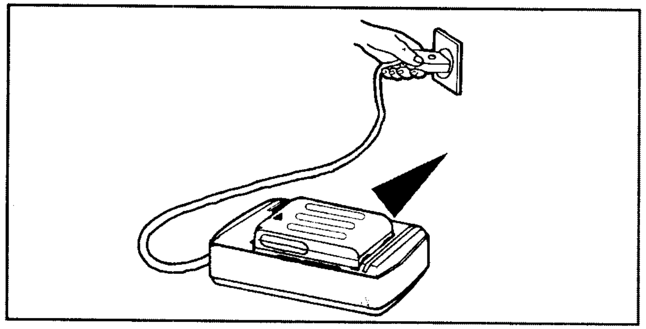
# Charging the Battery Pack

*The battery pack supplied lasts approximately 40 minutes, depending on how much you use the Zoom and Pause functions. It is, therefore, recommended that you have several available.*

*You must charge the battery pack when:*

- *You purchase the camcorder*
- *The battery pack is completely discharged (the ▭ symbol flashes in the viewfinder)*

*IMPORTANT* ***Please read the instructions on how to use and take care of the battery pack on page 63.***

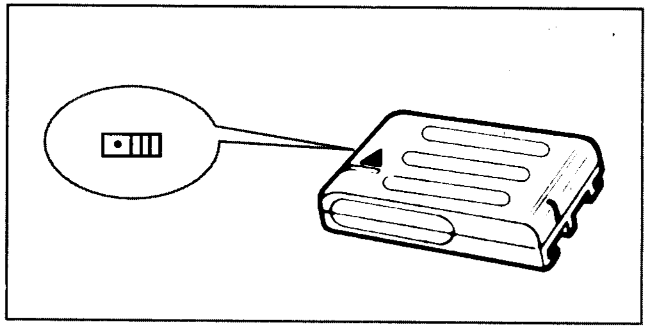


Connect the AC power adaptor to a wall socket.

Attach the battery pack to the adaptor by:

- Pressing down on the battery pack
- Sliding it to the right

Result: The power and charge indicator lights come on.



Leave the battery to charge for about one hour.

Result: After one hour, the charge indicator light goes out.

Set the identification tab to the red position to show that the battery is ready for use.

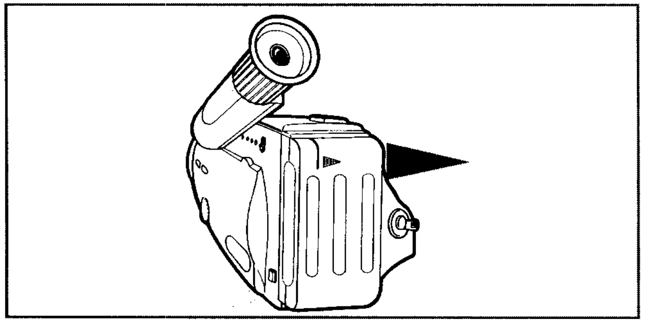
# Attaching the Battery Pack

***Once the battery pack has been completely charged, you can attach it to the camcorder.***

***When you have finished using your camcorder, remove the battery pack so that it will not be damaged in any way.***

*IMPORTANT* ***Before attaching or removing the battery pack, check that the VCR/CAMERA switch is set to OFF.***

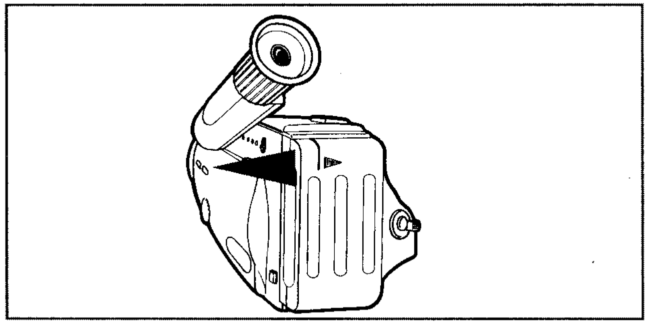
## *Attachment*



Press down on the battery pack and slide it to the right.

Make sure that the battery pack is fitted firmly into place. Otherwise, you may damage the pins on the camcorder.

## *Removal*



Hold down the BATTERY EJECT button.

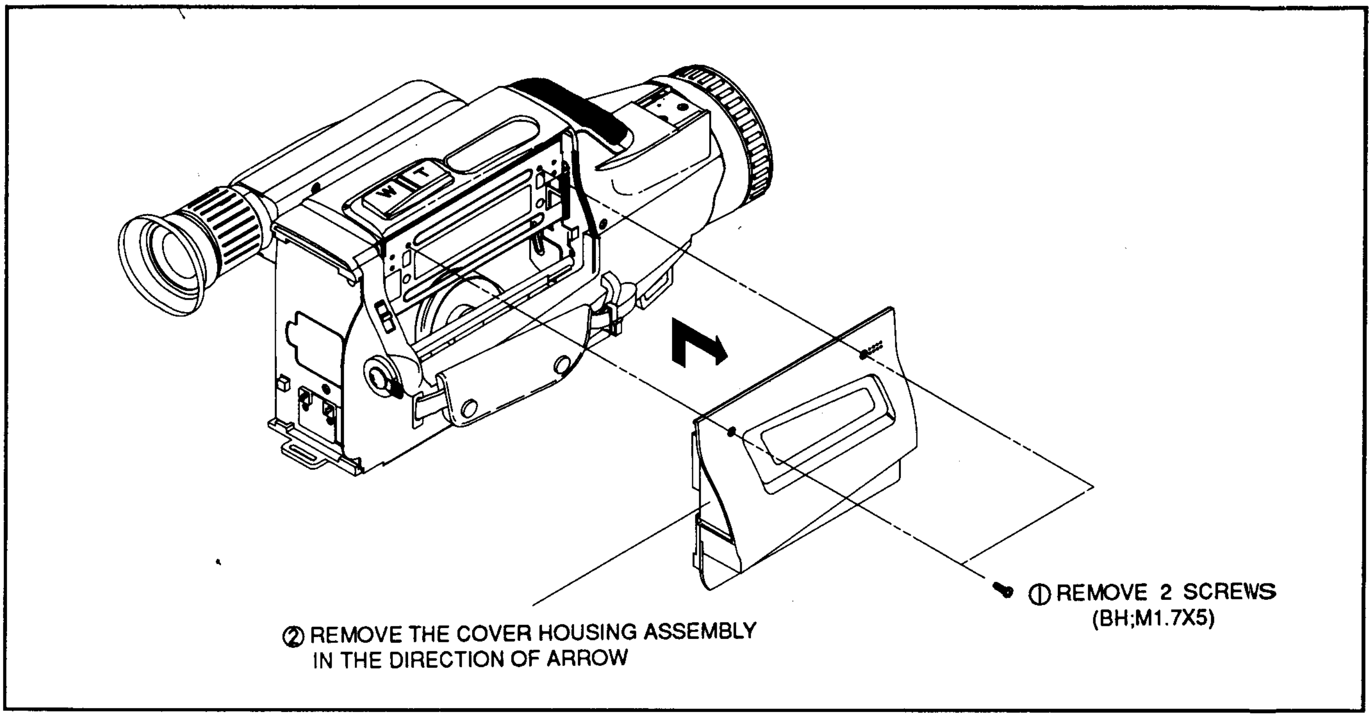
Slide the battery pack to the left to release it.

Set the identification tab to the black position to show that the battery is discharged.

# 4. DISASSEMBLY

## 4-1. INSTRUMENT DISASSEMBLY

### 4-1-1. Cover-Housing Ass'y Removal

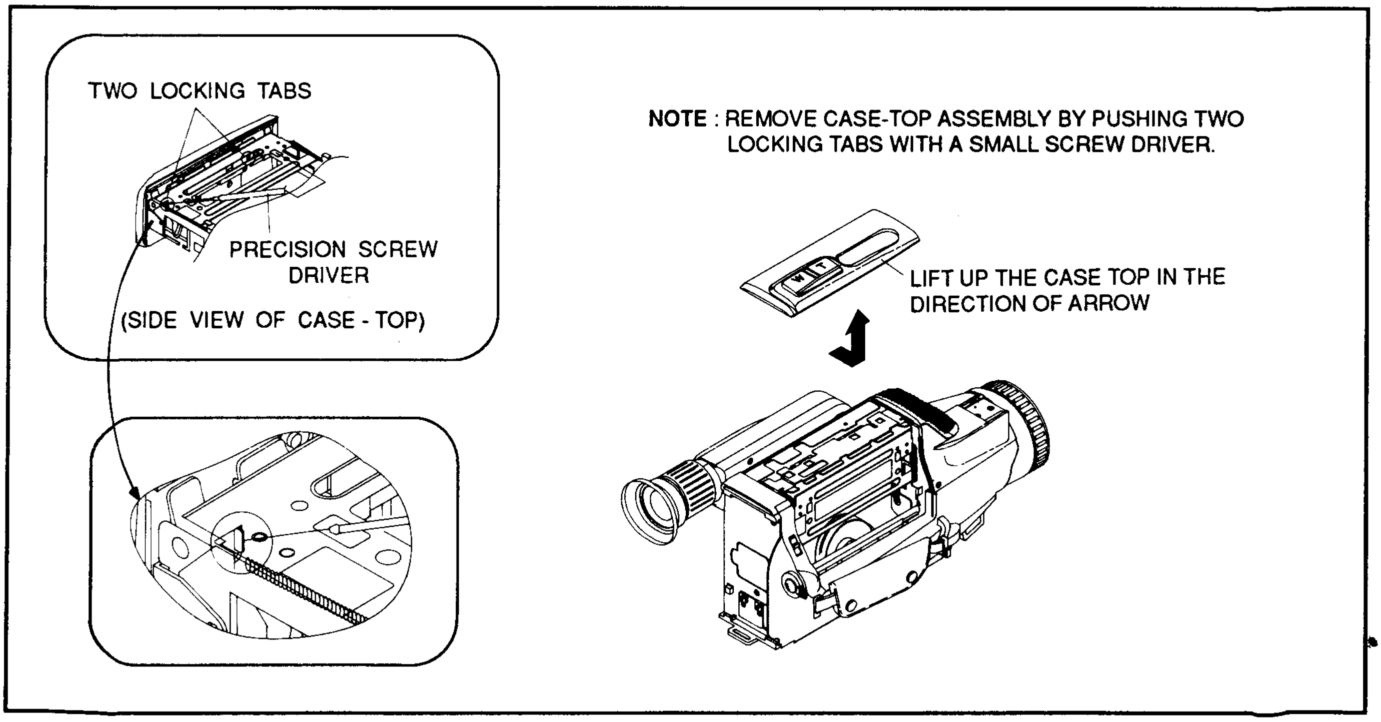


① REMOVE 2 SCREWS
(BH;M1.7X5)

② REMOVE THE COVER HOUSING ASSEMBLY
IN THE DIRECTION OF ARROW

Fig. 1 Cover-Housing Ass'y Removal

### 4-1-2. Case-Top Ass'y Removal

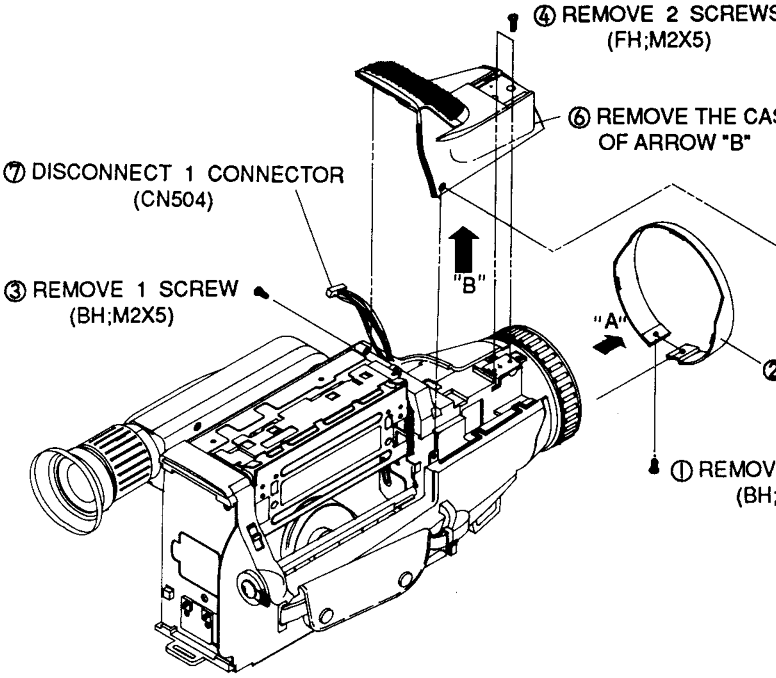

TWO LOCKING TABS
PRECISION SCREW DRIVER
(SIDE VIEW OF CASE - TOP)

**NOTE** : REMOVE CASE-TOP ASSEMBLY BY PUSHING TWO LOCKING TABS WITH A SMALL SCREW DRIVER.

LIFT UP THE CASE TOP IN THE
DIRECTION OF ARROW

Fig. 2 Case-Top Ass'y Removal

### 4-1-3. Case-Front Ass'y Removal



④ REMOVE 2 SCREWS
(FH;M2X5)

⑥ REMOVE THE CASE FRONT ASS'Y IN THE DIRECTION OF ARROW "B"

⑦ DISCONNECT 1 CONNECTOR
(CN504)

③ REMOVE 1 SCREW
(BH;M2X5)

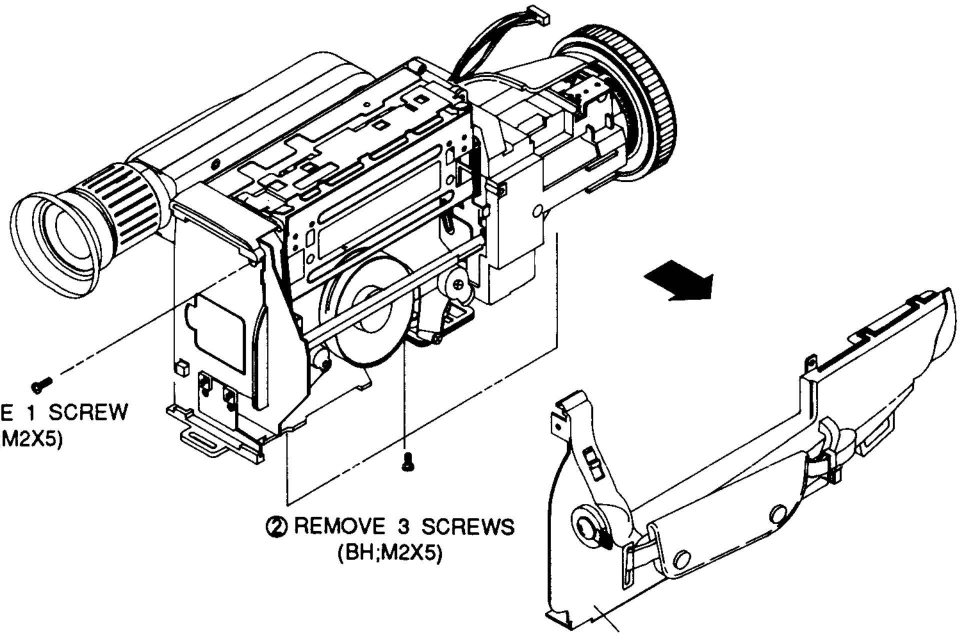
⑤ REMOVE 1 SCREW
(TAP;2X6)

② REMOVE RING-HOOD IN THE DIRECTION OF ARROW "A"

① REMOVE 1 SCREW
(BH;M2X5)

Fig. 3 Case-Front Ass'y Removal

### 4-1-4. Case-Right Ass'y Removal



① REMOVE 1 SCREW
(BH;M2X5)

② REMOVE 3 SCREWS
(BH;M2X5)

③ REMOVE THE CASE-RIGHT ASS'Y IN THE DIRECTION OF ARROW

Fig. 4 Case-Right Ass'y Removal

### 4-1-5. Case-Left Ass'y Removal

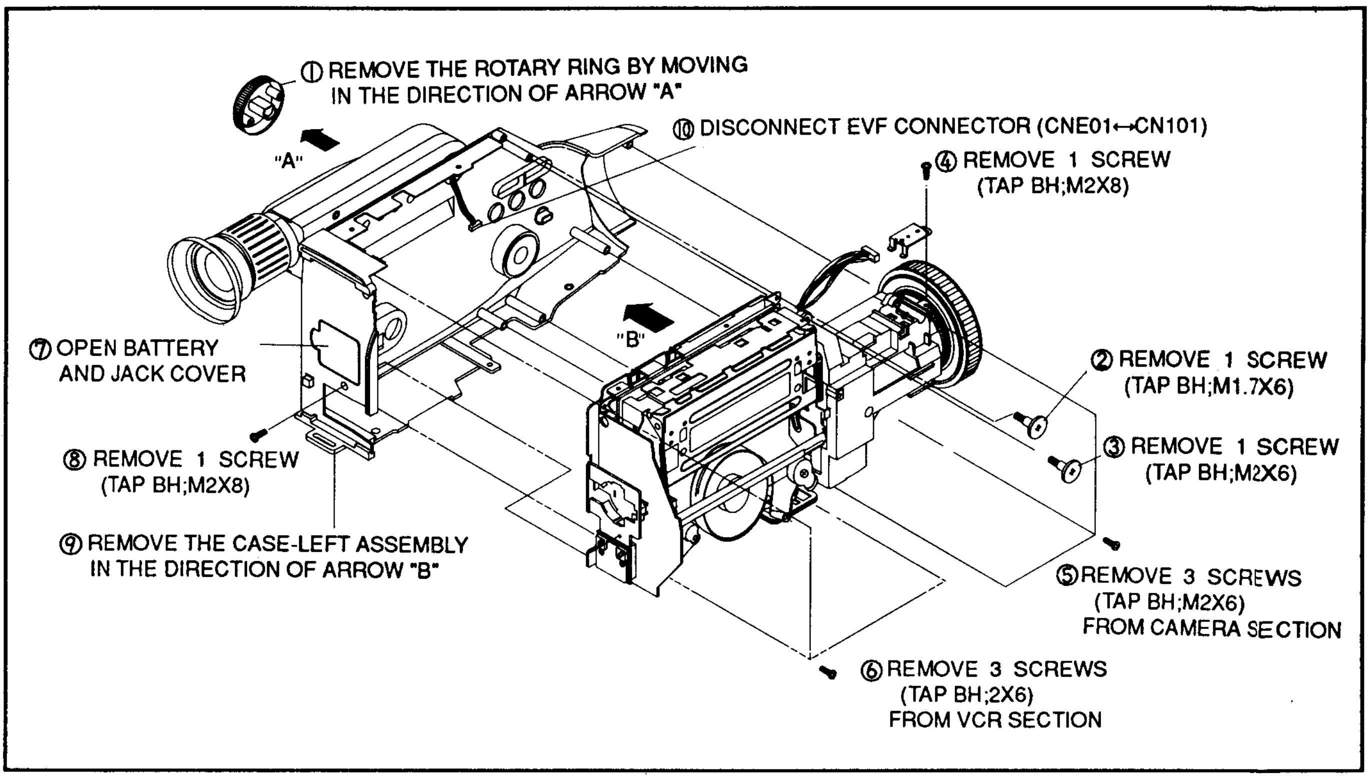

① REMOVE THE ROTARY RING BY MOVING IN THE DIRECTION OF ARROW "A"
"A"
⑩ DISCONNECT EVF CONNECTOR (CNE01↔CN101)
④ REMOVE 1 SCREW (TAP BH;M2X8)
"B"
⑦ OPEN BATTERY AND JACK COVER
② REMOVE 1 SCREW (TAP BH;M1.7X6)
③ REMOVE 1 SCREW (TAP BH;M2X6)
⑧ REMOVE 1 SCREW (TAP BH;M2X8)
⑨ REMOVE THE CASE-LEFT ASSEMBLY IN THE DIRECTION OF ARROW "B"
⑤ REMOVE 3 SCREWS (TAP BH;M2X6) FROM CAMERA SECTION
⑥ REMOVE 3 SCREWS (TAP BH;2X6) FROM VCR SECTION

Fig. 5 Case-Left Ass'y Removal

### 4-1-6. VCR & CAMERA Block Removal

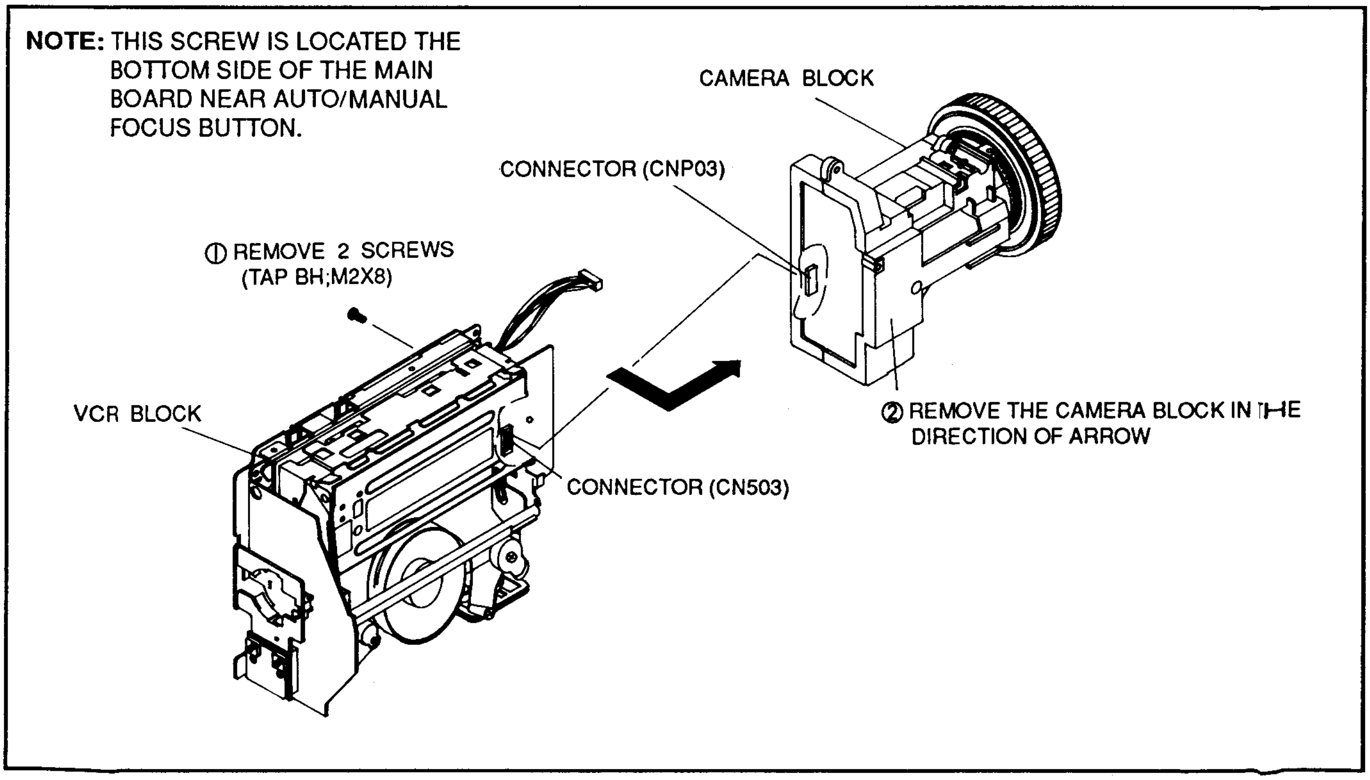

NOTE: THIS SCREW IS LOCATED THE BOTTOM SIDE OF THE MAIN BOARD NEAR AUTO/MANUAL FOCUS BUTTON.
CAMERA BLOCK
CONNECTOR (CNP03)
① REMOVE 2 SCREWS (TAP BH;M2X8)
VCR BLOCK
② REMOVE THE CAMERA BLOCK IN THE DIRECTION OF ARROW
CONNECTOR (CN503)

Fig. 6 VCR & CAMERA Block Removal

## 4-1-7. VCR Block Removal

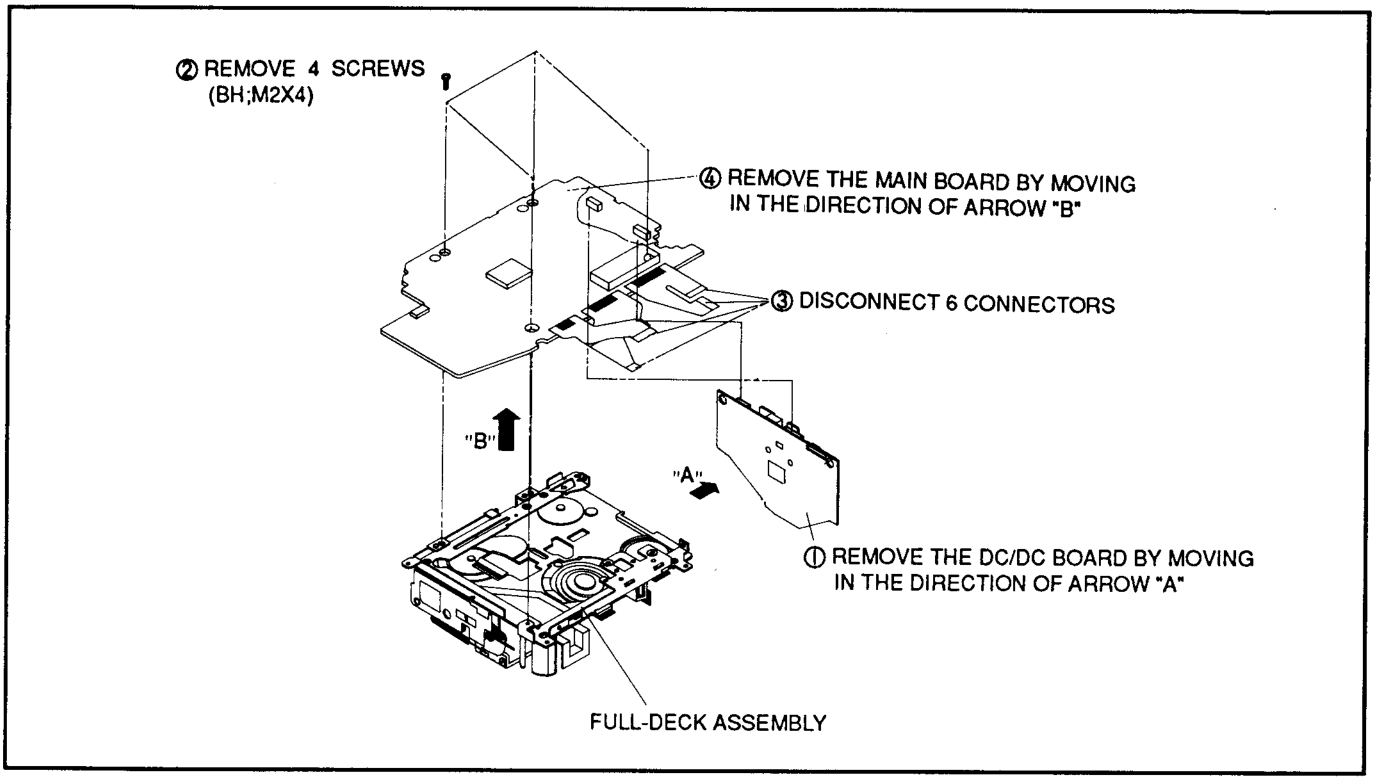

② REMOVE 4 SCREWS
(BH;M2X4)
④ REMOVE THE MAIN BOARD BY MOVING IN THE DIRECTION OF ARROW "B"
③ DISCONNECT 6 CONNECTORS
"B"
"A"
① REMOVE THE DC/DC BOARD BY MOVING IN THE DIRECTION OF ARROW "A"
FULL-DECK ASSEMBLY

Fig. 7 VCR Block Removal

## 4-1-8. CAMERA Block Removal

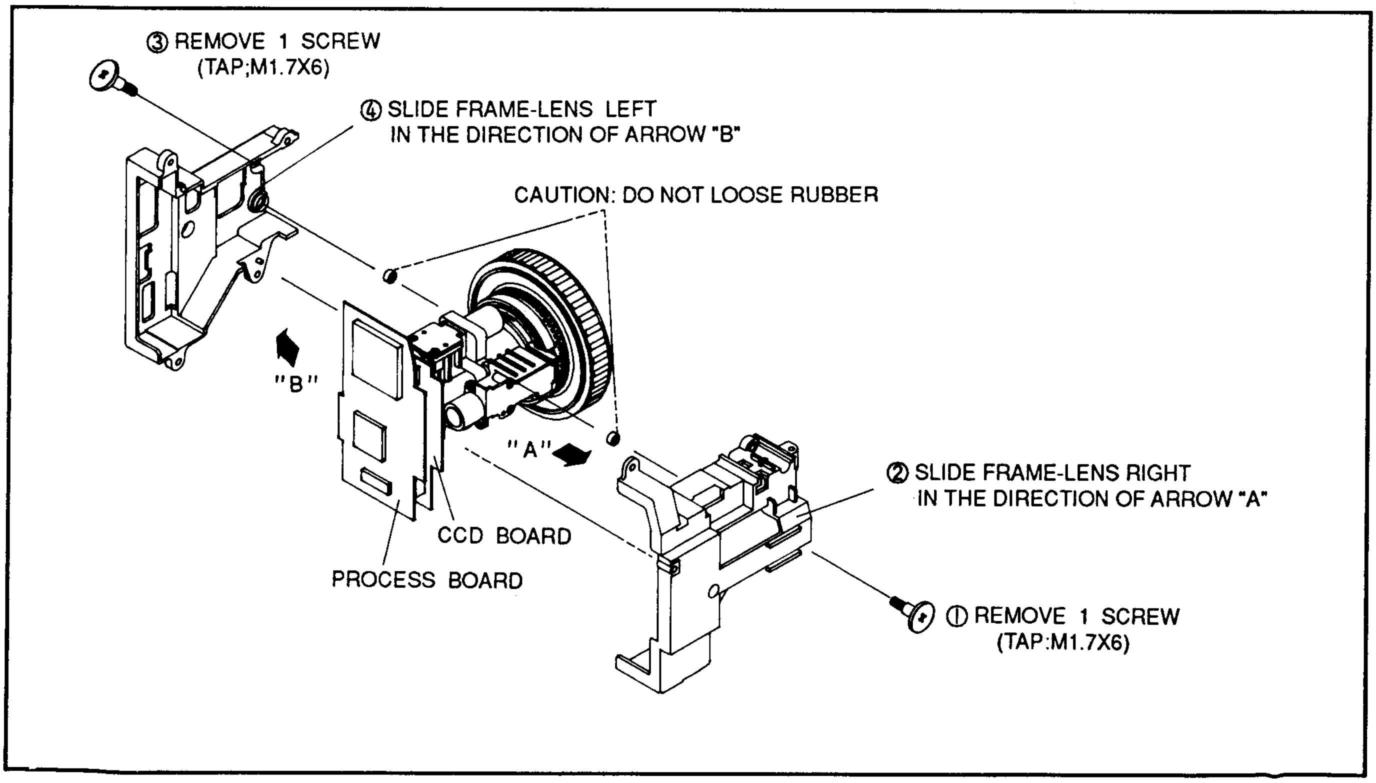

③ REMOVE 1 SCREW
(TAP;M1.7X6)
④ SLIDE FRAME-LENS LEFT IN THE DIRECTION OF ARROW "B"
CAUTION: DO NOT LOOSE RUBBER
"B"
"A"
② SLIDE FRAME-LENS RIGHT IN THE DIRECTION OF ARROW "A"
CCD BOARD
PROCESS BOARD
① REMOVE 1 SCREW
(TAP:M1.7X6)

Fig. 8 CAMERA Block Removal

### 4-1-9. CAMERA Board Removal

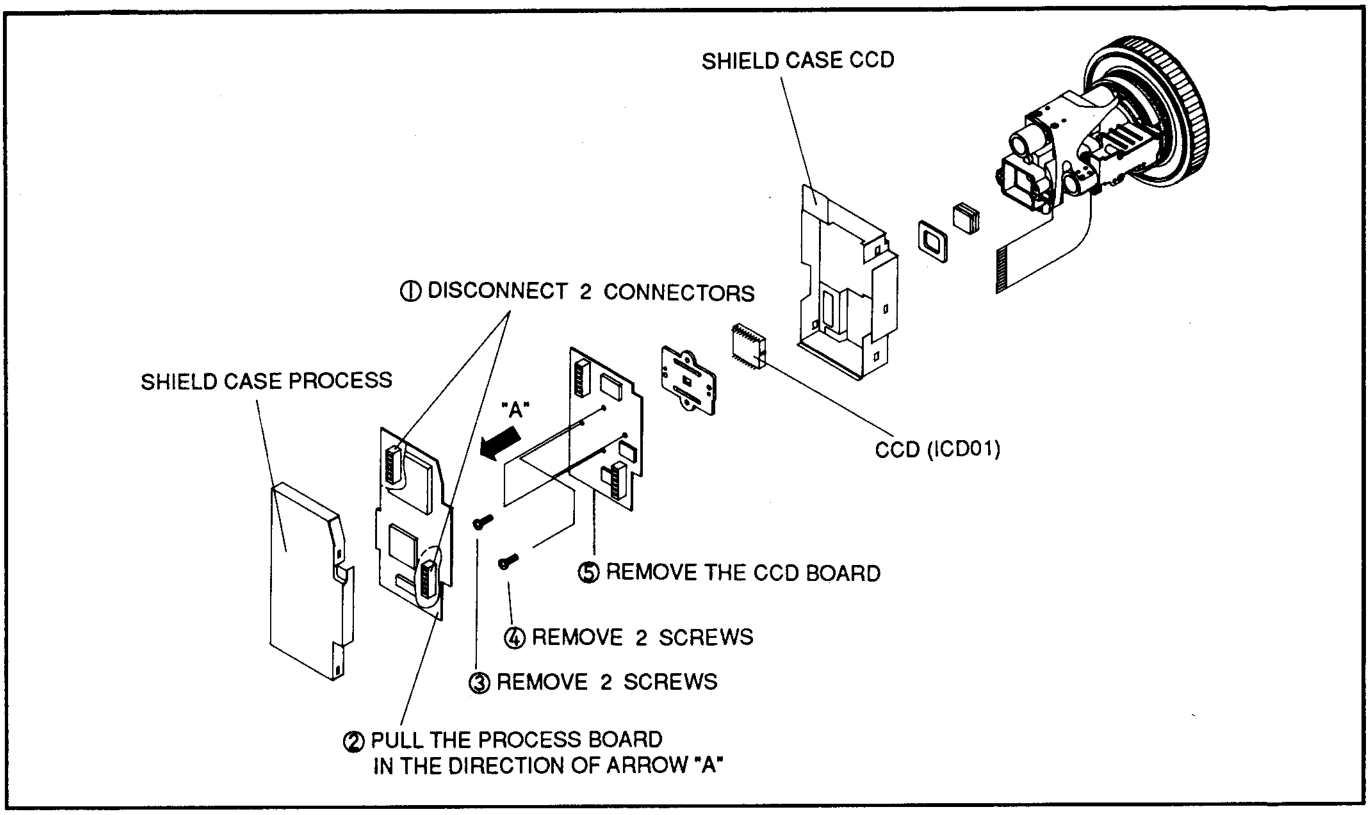

SHIELD CASE CCD
① DISCONNECT 2 CONNECTORS
SHIELD CASE PROCESS
"A"
CCD (ICD01)
⑤ REMOVE THE CCD BOARD
④ REMOVE 2 SCREWS
③ REMOVE 2 SCREWS
② PULL THE PROCESS BOARD
IN THE DIRECTION OF ARROW "A"

Fig. 9 Camera Board Removal

### 4-1-10. EVF Ass'y Removal

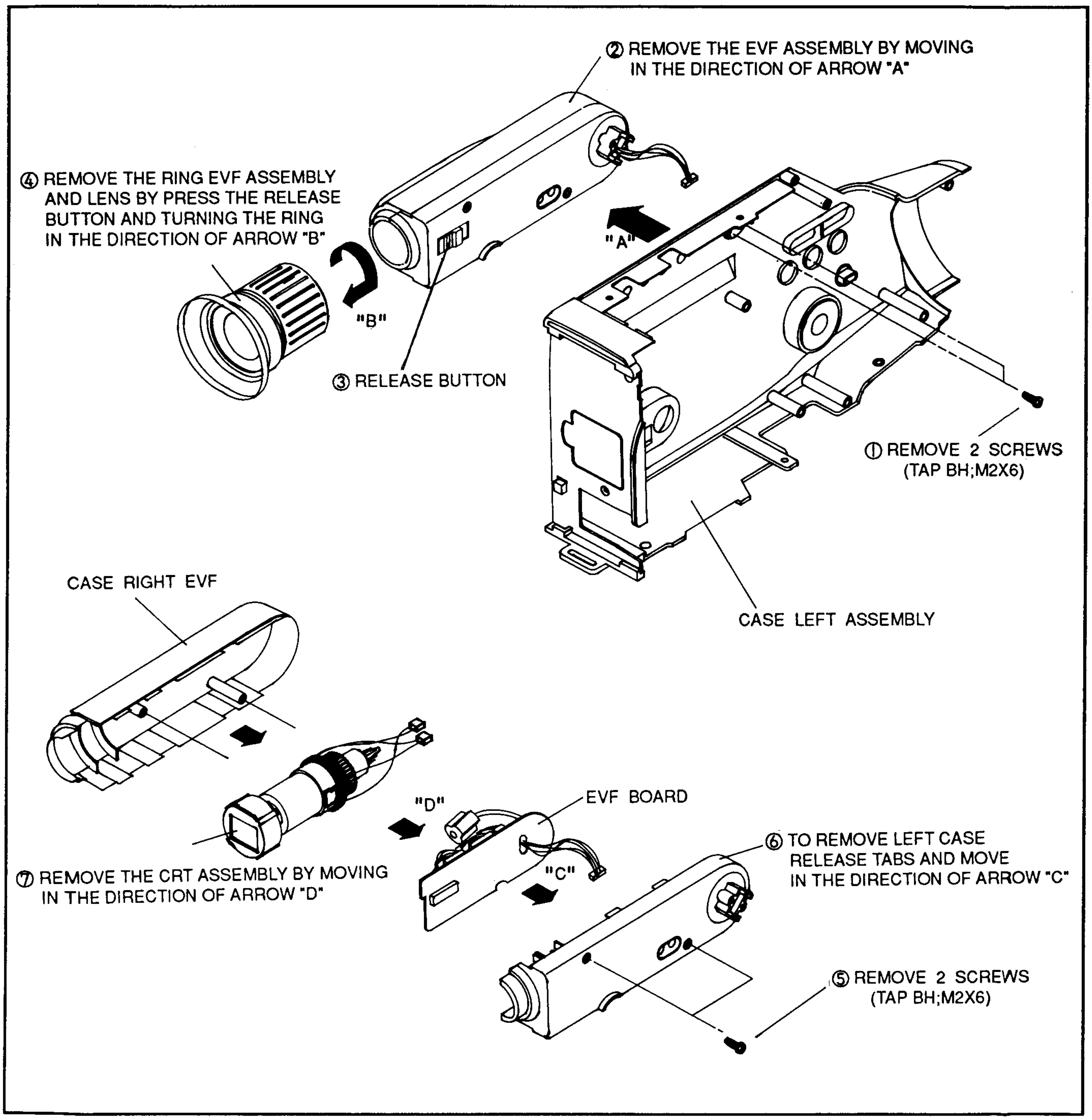

② REMOVE THE EVF ASSEMBLY BY MOVING IN THE DIRECTION OF ARROW "A"
④ REMOVE THE RING EVF ASSEMBLY AND LENS BY PRESS THE RELEASE BUTTON AND TURNING THE RING IN THE DIRECTION OF ARROW "B"
"A"
"B"
③ RELEASE BUTTON
① REMOVE 2 SCREWS (TAP BH;M2X6)
CASE RIGHT EVF
CASE LEFT ASSEMBLY
"D"
EVF BOARD
⑥ TO REMOVE LEFT CASE RELEASE TABS AND MOVE IN THE DIRECTION OF ARROW "C"
"C"
⑦ REMOVE THE CRT ASSEMBLY BY MOVING IN THE DIRECTION OF ARROW "D"
⑤ REMOVE 2 SCREWS (TAP BH;M2X6)

Fig. 10 EVF Ass'y Removal

## 4-1-11. Circuit Boards Location

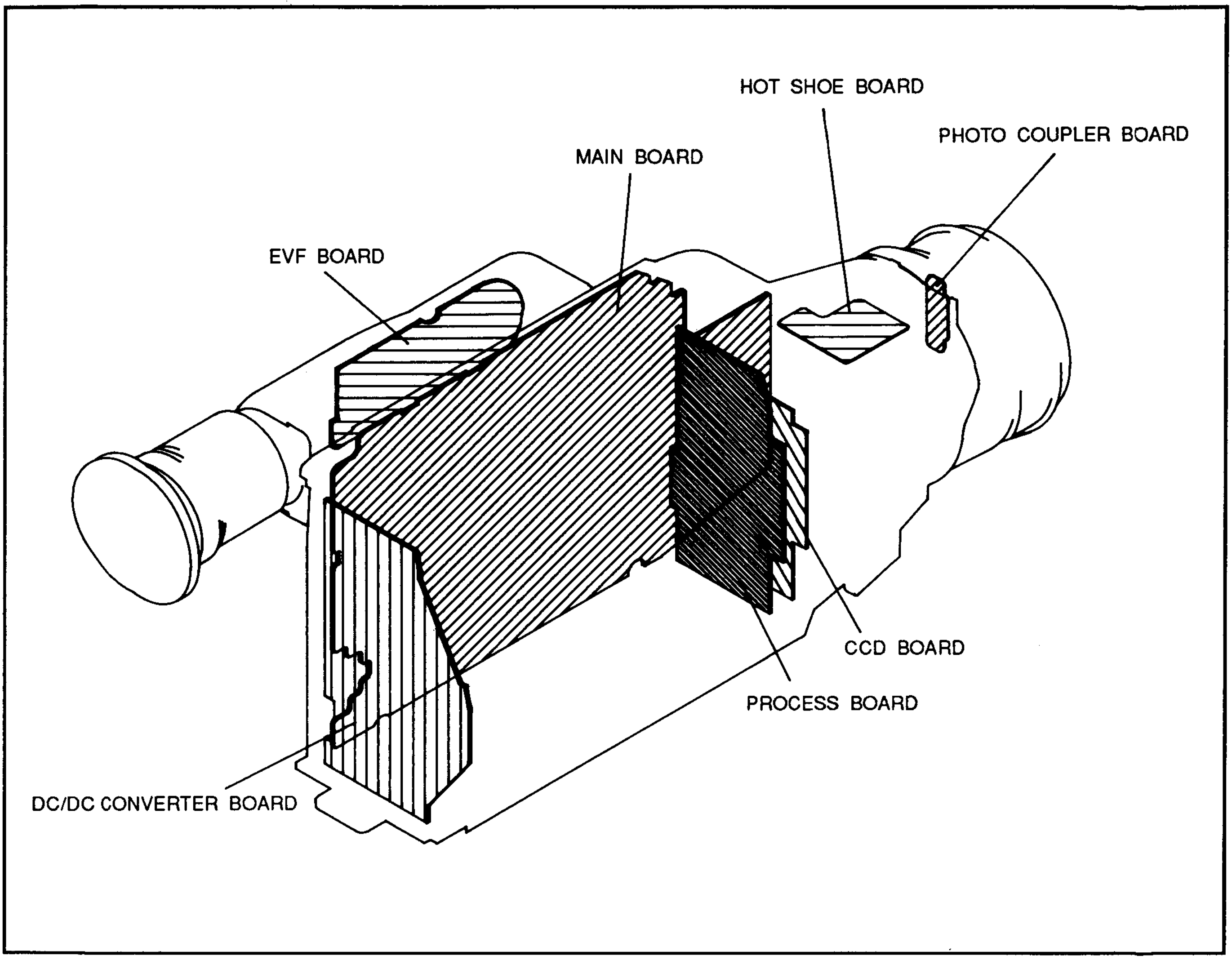
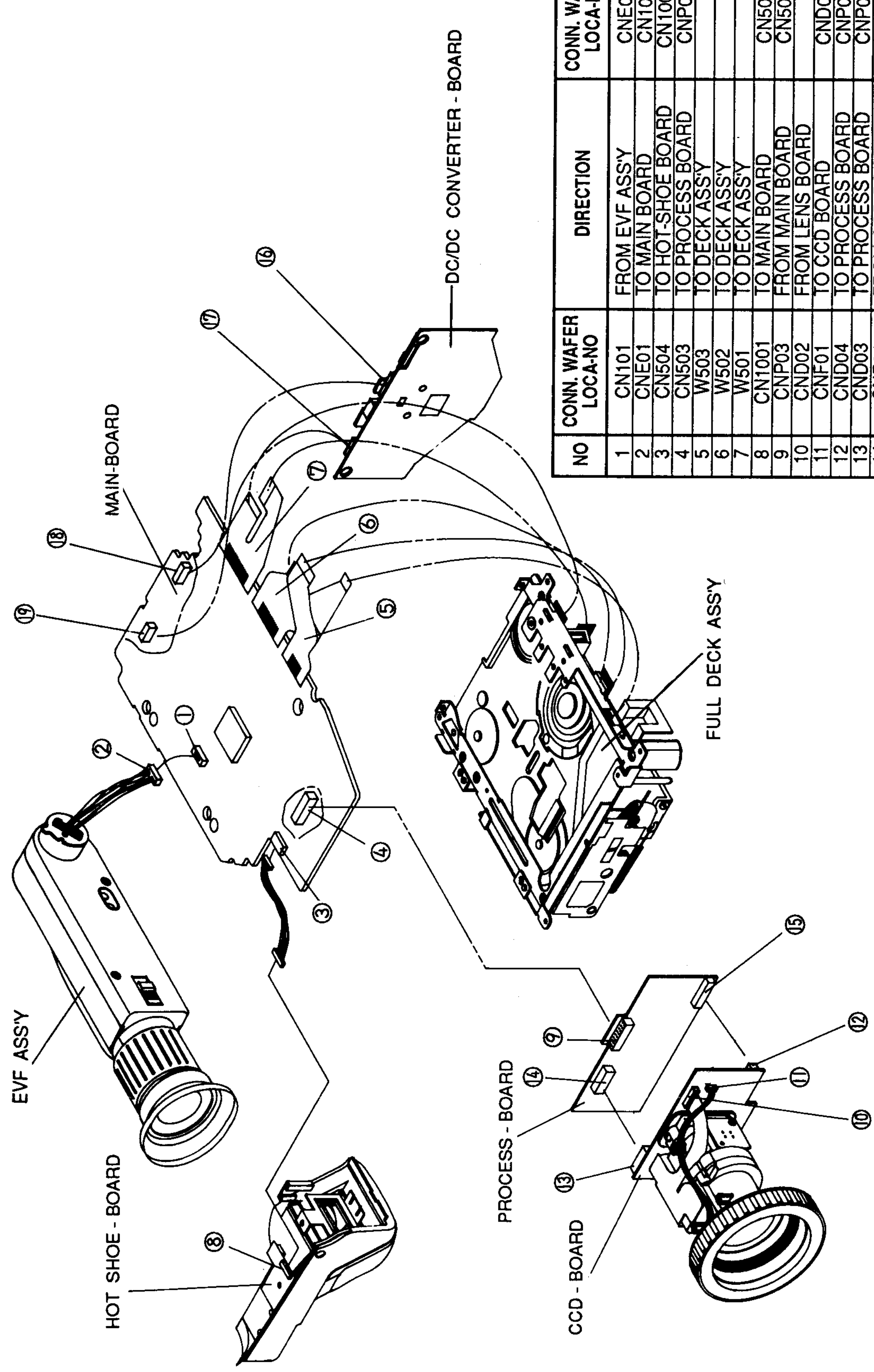

HOT SHOE BOARD
PHOTO COUPLER BOARD
MAIN BOARD
EVF BOARD
CCD BOARD
PROCESS BOARD
DC/DC CONVERTER BOARD

Fig. 10 Circuit Boards Location

### 4-1-12. Diagram of Connectors Connection



EVF ASS'Y
HOT SHOE - BOARD
MAIN-BOARD
DC/DC CONVERTER - BOARD
FULL DECK ASS'Y
PROCESS - BOARD
CCD - BOARD
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲

| NO | CONN. WAFER LOCA-NO | DIRECTION | CONN. WAFER LOCA-NO |
|---|---|---|---|
| 1 | CN101 | FROM EVF ASS'Y | CNE01 |
| 2 | CNE01 | TO MAIN BOARD | CN101 |
| 3 | CN504 | TO HOT-SHOE BOARD | CN1001 |
| 4 | CN503 | TO PROCESS BOARD | CNP03 |
| 5 | W503 | TO DECK ASS'Y | |
| 6 | W502 | TO DECK ASS'Y | |
| 7 | W501 | TO DECK ASS'Y | |
| 8 | CN1001 | TO MAIN BOARD | CN504 |
| 9 | CNP03 | FROM MAIN BOARD | CN503 |
| 10 | CND02 | FROM LENS BOARD | |
| 11 | CNF01 | TO CCD BOARD | CND01 |
| 12 | CND04 | TO PROCESS BOARD | CNP02 |
| 13 | CND03 | TO PROCESS BOARD | CNP01 |
| 14 | CNP01 | FROM CCD BOARD | CND03 |
| 15 | CNP02 | FROM CCD BOARD | CND04 |
| 16 | CN901 | TO MAIN BOARD | CN501 |
| 17 | CN902 | TO MAIN BOARD | CN502 |
| 18 | CN501 | FROM DC/DC BOARD | CN901 |
| 19 | CN502 | FROM DC/DC BOARD | CN902 |

# 4-2. MECHANICAL DISASSEMBLY

## 4-2-1. Mechanical Parts Locations

### 1. Main Deck (Top View)

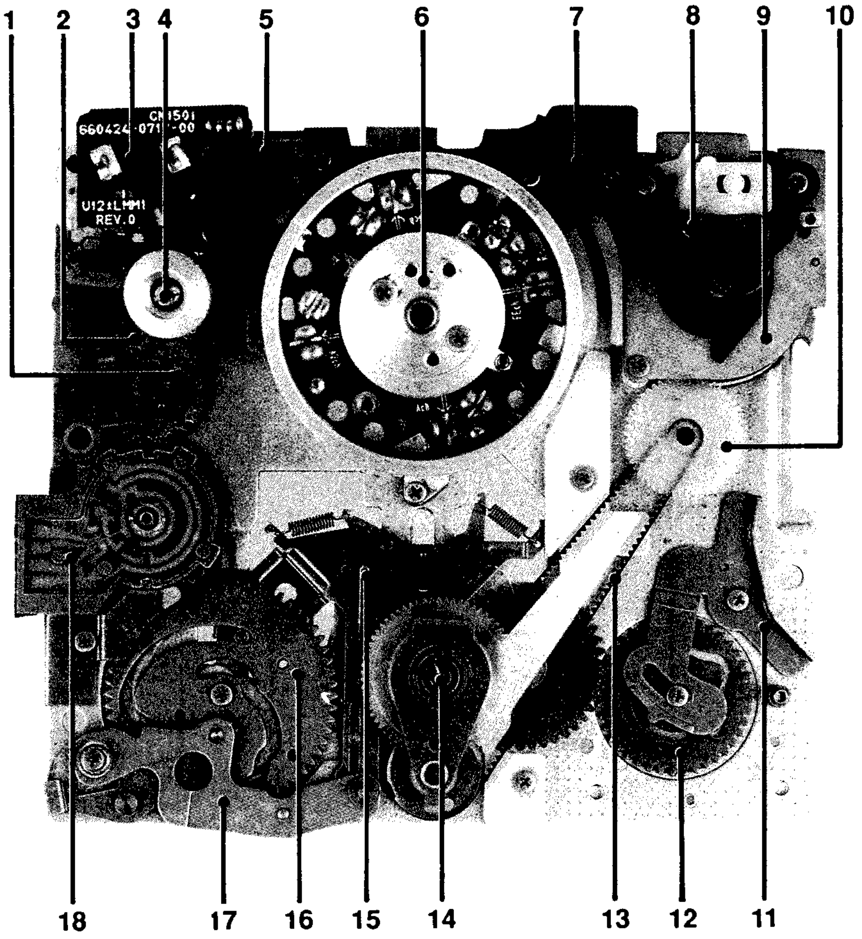


Fig. 12 Main Deck (Top View)

1. GEAR-CAM TENSION
2. GEAR-LOADING B
3. MOTOR-LOADING
4. POLE-BASE SUB ASS'Y
5. RAIL-STOPPER L
6. ASS'Y-SEMI DRUM
7. GUIDE-TAPE T
8. BASE-CAPSTAN ASS'Y
9. MOTOR CAPSTAN
10. GEAR-CAPSTAN ASS'Y
11. LEVER-CAM PINCH ASS'Y
12. GEAR-CAM PINCH
13. BELT-TIMING
14. IDLER ASS'Y
15. PLATE-SLIDER ASS'Y
16. GEAR-CAM MAIN
17. LEVER-CAM ASS'Y
18. SWITCH-MODE ASS'Y

## 2. Sub Deck (Top View)

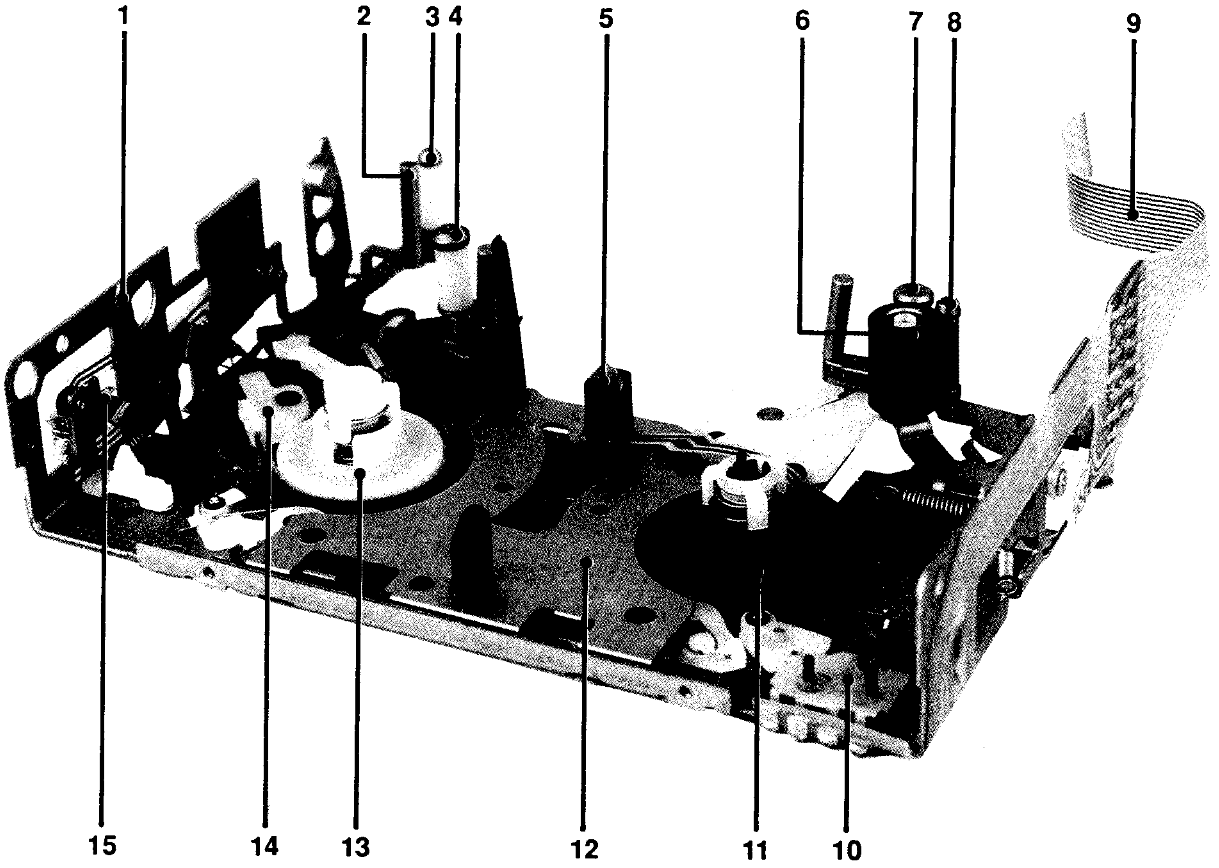


Fig. 13 Sub Deck (Top View)

1. SUB-CHASSIS
2. ARM-TENSION ASS'Y
3. LEVER-GUIDE ASS'Y
4. ARM-POLE BASE S ASS'Y
5. LED-IR
6. ARM-PINCH R ASS'Y
7. ARM-POLE BASE T ASS'Y
8. ARM-REVIEW ASS'Y
9. F.P.C CONNECTION
10. SW-DETECTOR
11. REEL-T ASS'Y
12. COVER-REEL ASS'Y
13. REEL-S ASS'Y
14. HOLDER-TENSION BAND ASS'Y
15. SW-LEAF

### 3. Housing Ass'y

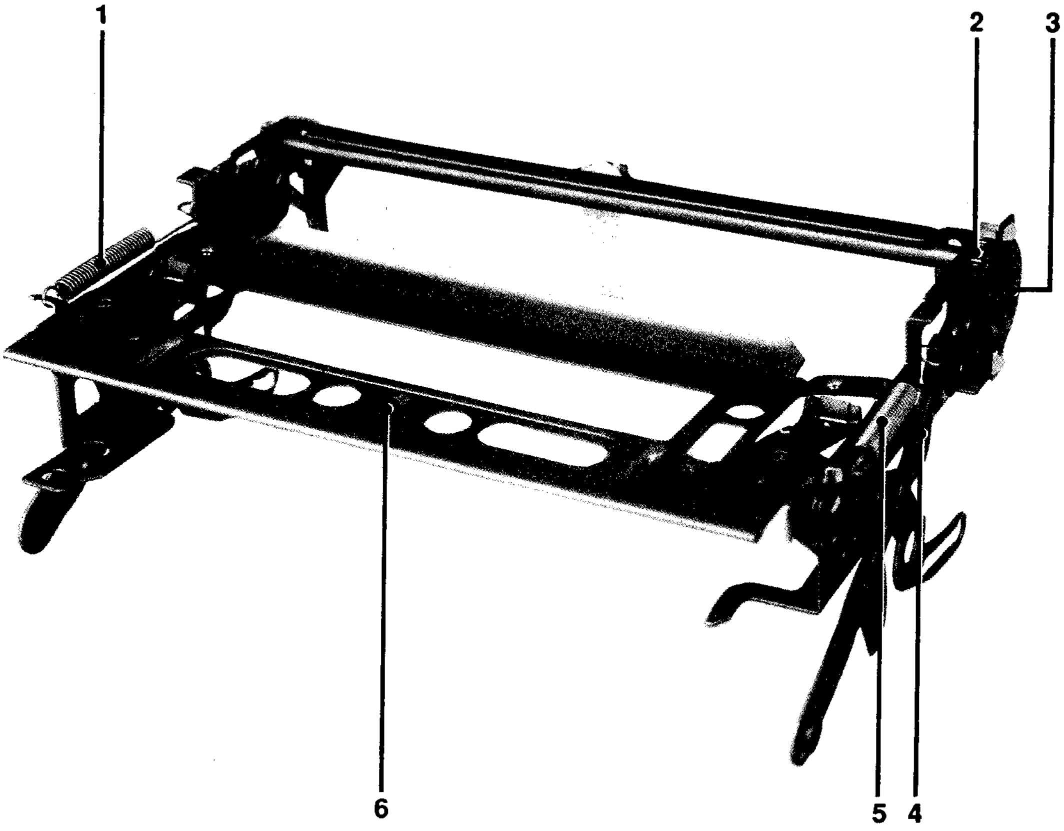


Fig. 14 Housing Ass'y

1. SPRING EJECT L
2. SHAFT-HOUSING ASS'Y
3. DAMPER-HOUSING
4. ARM-R ASS'Y
5. SPRING EJECT R
6. PLATE-HOUSING ASS'Y

### 4-2-2. Ready for Operation

1. Make sure Main Power S/W is turned off.
2. Connect lead connector and F.P.C to VCR Main Board.
3. Turn the Main Power S/W on.
4. Load a tape and make sure that Auto Loading is working.
5. Confirm the stop mode.
6. Check the Deck movement by pressing PLAY, FF and REW key.
7. Press the Eject (Stop) Key.

### 4-2-3. Deck Operation without Housing Ass'y & Tape (See Fig. 15)

1. Cover the LED assembly with ① ELECTRICAL TAPE.
2. Push the Lever Stopper ③ in the dirrection of arrow "A" in order to turn the S/W Leaf ② on. (Refer to Fig. A)
3. Turn on the test mode of the VCR Main board.
4. Follow the procedures for Ready for Operation.

**Note :** Push the Lever Locker ④ in the direction of arrow "A" in order to eject the tape compulsorily under the condition of Housing loaded.

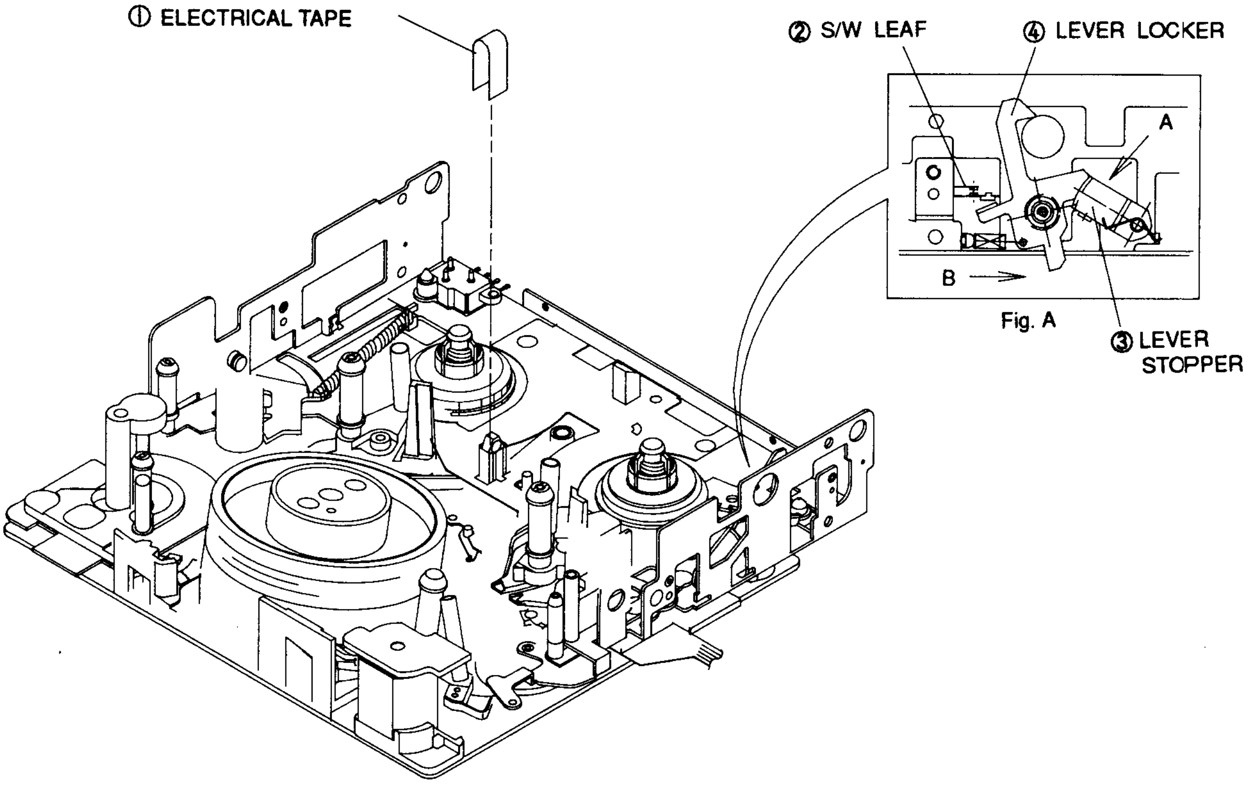


Fig. 15

## 4-2-4. Housing Ass'y

### 1. Removal

**Note : Be sure to remove the Housing Ass'y when Housing is ejected.**

1) Remove four (4) screws ① then remove the Cover Back ②.
2) Remove two (2) Pin Hinges ③ and then remove the Lever Slide ④ as described in Fig. A.

### 2. Reassembly

1) Mount the Lever Slide ④ to pin as described in Fig. A.
2) Mount the Pin Hinge ③ as described in Fig. b,to the groove by pushing the Housing ⑤ in the direction of arrow A.
3) Assemble the Cover Back ② then fasten four (4) screws ①.

**Note : After assembling, make sure Housing Ass'y is performing properly by installing Housing.**

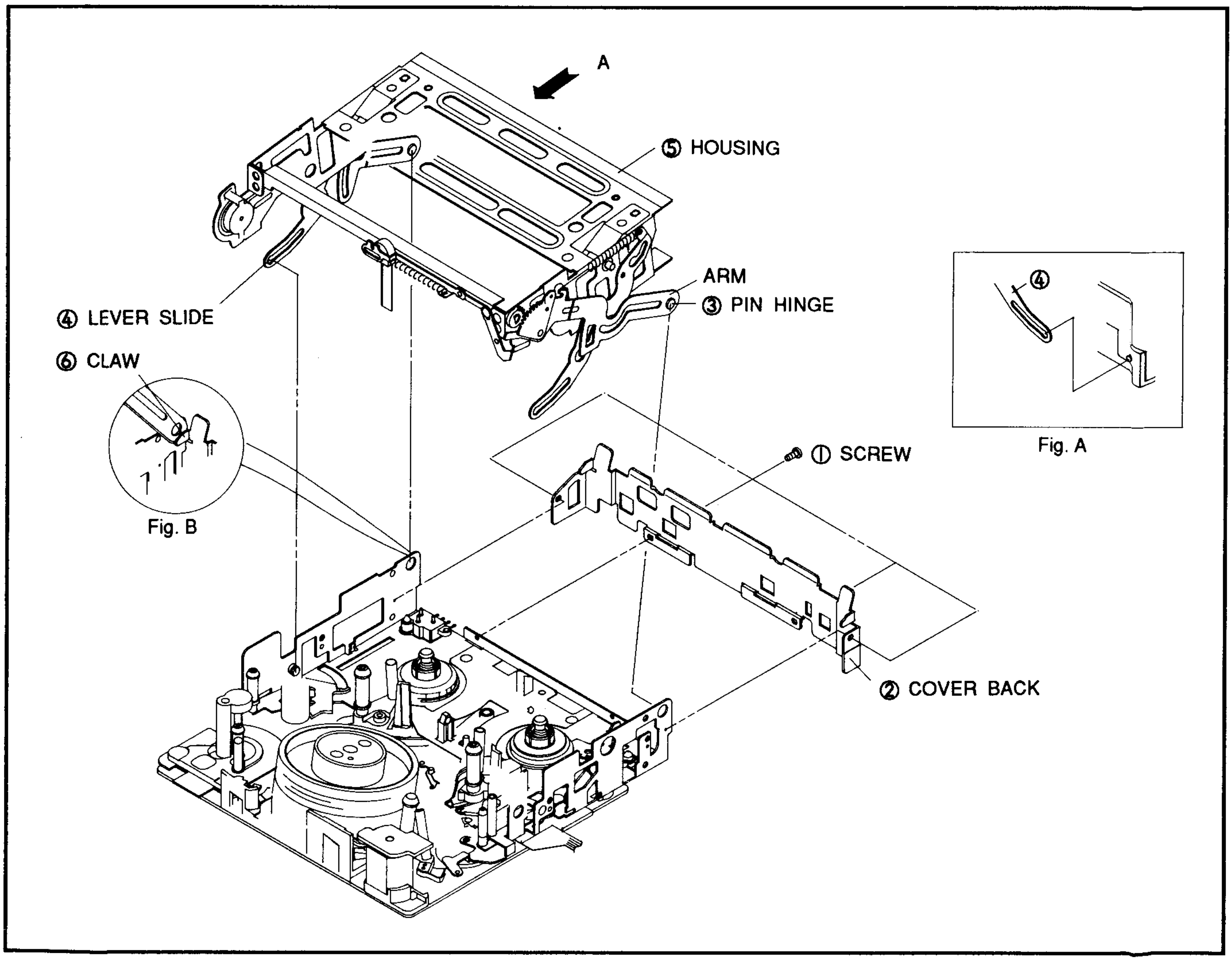

A
⑤ HOUSING
ARM
③ PIN HINGE
④ LEVER SLIDE
⑥ CLAW
Fig. B
① SCREW
④
Fig. A
② COVER BACK

Fig. 16

### 4-2-5. Drum Ass'y

#### 1. Removal

> **Note** : Take extreme care when removing the Drum Ass'y ⑩.
> Do not touch the Head Tip ⑪ during servicing.

1) Remove the Housing Ass'y. (Refer to section 4-2-4)
2) Remove one (1) screw ①, then remove the Guide Tape T ②.
3) Remove two (2) screws ④, ⑤, then remove the Base Drum ⑥.
4) Remove one (1) screw ⑦, then remove the Earth Brush ⑧.
5) Remove two (2) screws ⑨, then remove the Drum Ass'y ⑩.

#### 2. Reassembly

1) Mount the Drum Ass'y ⑩ to the Boss ⑫ of Base Drum ⑥ and secure two (2) screws ⑨.
2) Mount the Earth Brush ⑧ then secure one (1) screw ⑦.
3) Mount the Base Drum ⑥ to the Main Deck and then secure two (2) screws ④, ⑤.
4) Mount the Guide Tape T ② and then secure one (1) screw ①.

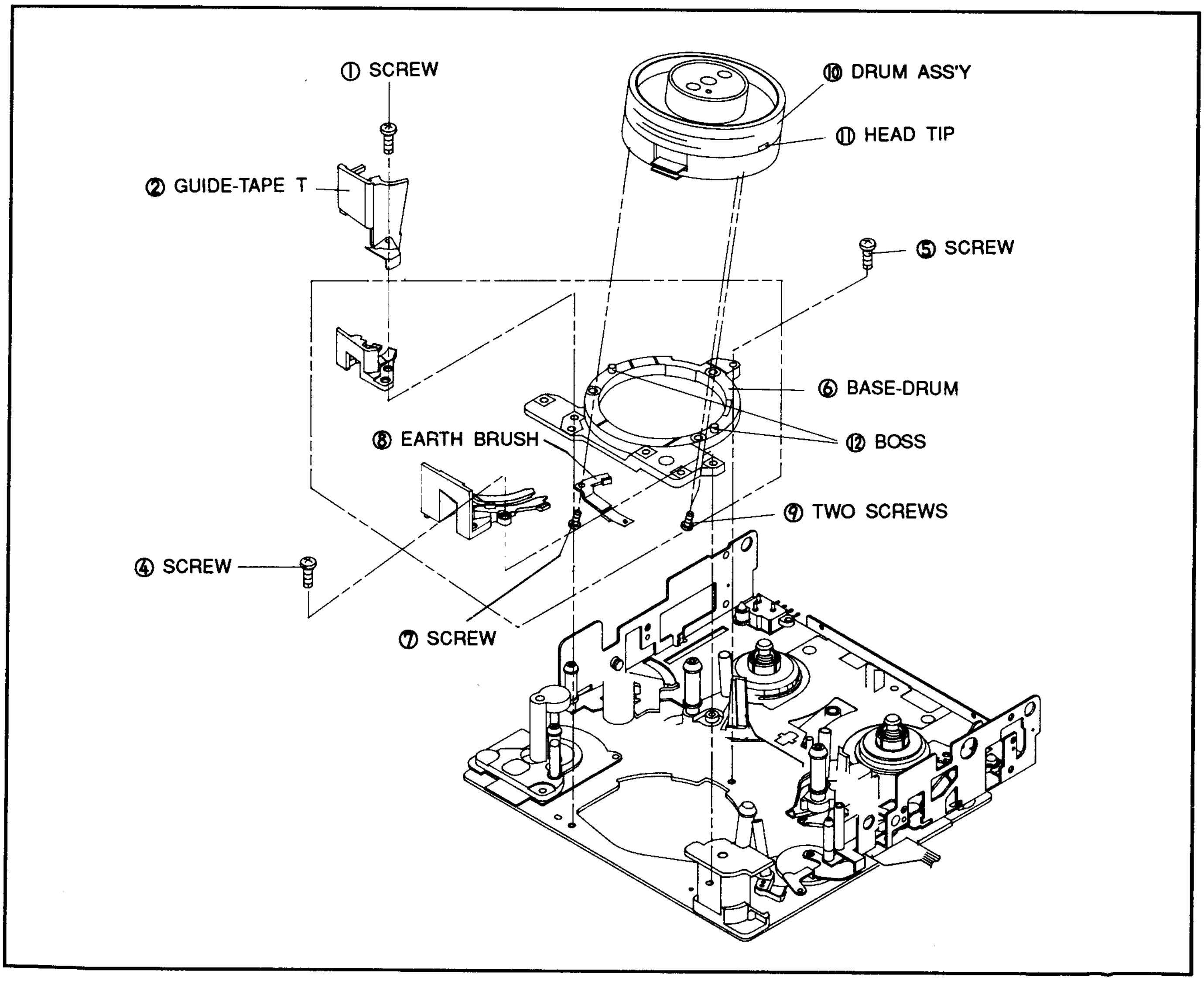

① SCREW
⑩ DRUM ASS'Y
⑪ HEAD TIP
② GUIDE-TAPE T
⑤ SCREW
⑥ BASE-DRUM
⑧ EARTH BRUSH
⑫ BOSS
⑨ TWO SCREWS
④ SCREW
⑦ SCREW

Fig.17

### 4-2-6. Idler Ass'y

**1. Removal**

1) Remove two (2) screws ① and one (1) screw ⑨ and then remove the Cover Reel ③ from the Deck.
2) Take out the Holder LED ② from the Cover Reel ③.
3) Remove the Washer Slit ④ from Idler Ass'y ⑤ and then remove the Idler Ass'y ⑤ from the Pin ⑥.

**2. Reassembly**

1) Fit the Idler Ass'y ⑤ into the Pin ⑥, and then install it with the Washer Slit ④.
2) Mount the Cover Reel ③ to the Deck Ass'y.
3) At that time, place the Pin Idler ⑦ into the Guide Home ⑧ of the Cover Reel ③.
4) Mount the Holder LED ② to the Cover Reel ③.
5) Fasten two (2) screws ① and one (1) screw ⑨.

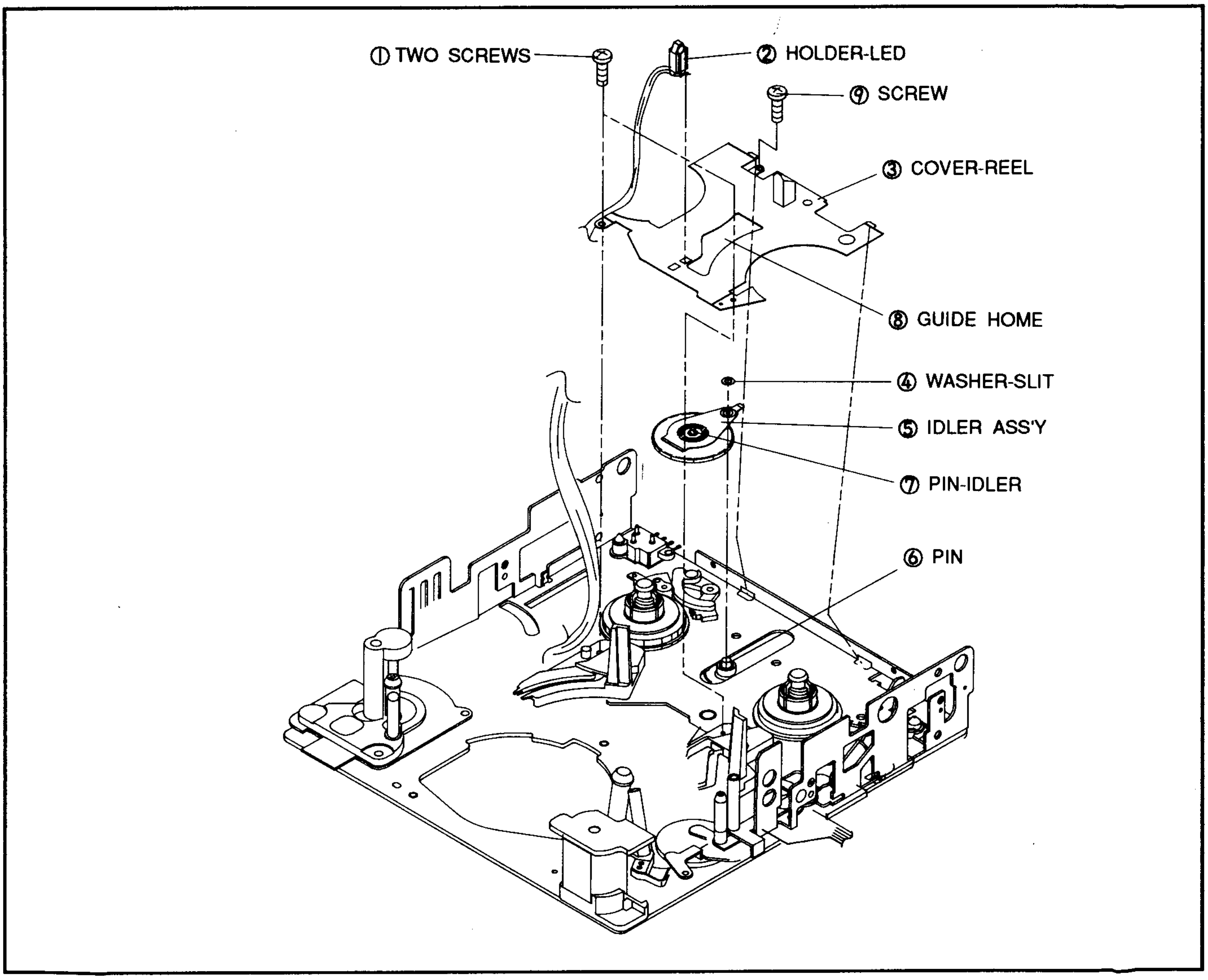

① TWO SCREWS
② HOLDER-LED
⑨ SCREW
③ COVER-REEL
⑧ GUIDE HOME
④ WASHER-SLIT
⑤ IDLER ASS'Y
⑦ PIN-IDLER
⑥ PIN

Fig. 18

### 4-2-7. Sub Deck Ass'y Removal from the Main Deck Ass'y

**1. Removal**

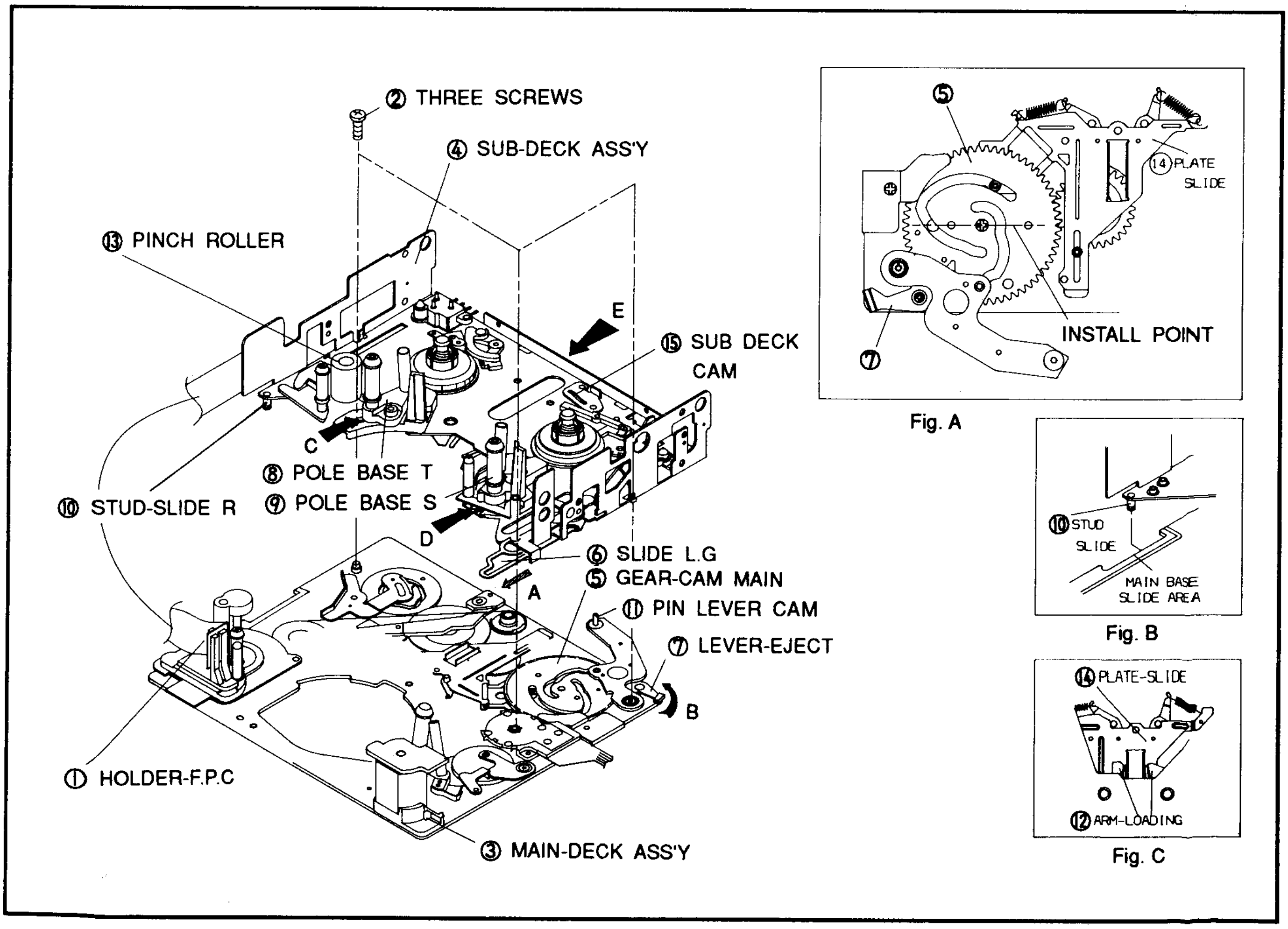
**Note :**
1) When disassembling, take care not to damage the other parts.
2) Always remove the Sub Deck Ass'y when Deck Ass'y is in eject mode.

1) To remove Sub Deck Ass'y, remove Idler Ass'y first. (Refer to 4-2-6)
2) Take out the Holder F.P.C ① from the Main Deck Ass'y ③.
3) Remove three (3) screws ②.
4) Remove the Sub Deck Ass'y ④ from the Main Deck Ass'y ③.

**2. Reassembly**

1) Align main base hole with Gear-cam main holes as shown in the Fig. A. (Refer to install point)
2) Push the Pole Base T ⑧ and the Pole Base S ⑨ in the direction of arrows "C", "D".
3) Position out the Slider L.G ⑥ toward "A", and then push the Lever Eject ⑦ toward "B".
4) Put in the Stud Slide R ⑩ to the slider area of Main Base as described in Fig. B.
Insert the pin Lever Cam ⑪ into the Sub Deck Cam ⑮.
5) Fit the Slider L.G ⑥ to the Bush screw of the Main Deck and then confirm whether the Plate Slide ⑭, and the Arm Loading are fixed correctly as shown in the Fig C.
6) Install the Sub Deck with three (3) screws ②.
7) Install the Holder F.P.C ① to the Main Deck Ass'y ③.

**Note :** After assembling the Sub-Deck Ass'y, make sure that the Sub-Deck Ass'y is performing correctly with power supply 3V to loading Motor change voltage direction.



② THREE SCREWS
④ SUB-DECK ASS'Y
⑬ PINCH ROLLER
E
⑮ SUB DECK CAM
C
⑧ POLE BASE T
⑩ STUD-SLIDE R
⑨ POLE BASE S
D
⑥ SLIDE L.G
⑤ GEAR-CAM MAIN
A
⑪ PIN LEVER CAM
⑦ LEVER-EJECT
B
① HOLDER-F.P.C
③ MAIN-DECK ASS'Y
⑤
⑭ PLATE SLIDE
INSTALL POINT
⑦
⑩ STUD SLIDE
MAIN BASE SLIDE AREA
⑭ PLATE-SLIDE
⑫ ARM-LOADING

Fig. A

Fig. B

Fig. C

Fig. 19

### 4-2-8. Arm Pole Base S, Arm Pole Base T

**1. Removal**

1) Take out the Pole Base S ① from Rail S ③ in the direction of arrow "B", and remove the Arm Loading S ⑤ from Sub Deck as described in Fig. A.
2) Take out the Pole Base T ② from Rail T ④ in the direction of arrow "A", and remove the Arm Loading T ⑥ from Sub Deck as described in Fig. A.

**2. Reassembly**

1) Insert the Arm Loading S to the Sub Deck, and turn in the direction of arrow "C", and then put in the two pins of the Pole Base S ① to the Rail S ③ in the opposite direction of arrow "B".
2) Insert the Arm Loading T to the Sub Deck (Refer to Fig. A and turn in the direction of arrow "D", and then put in the two pin of the Pole Base T ② to the Rail T ④ in the opposite direction of arrow "A".

**Note** : When assembling, be careful not to stain the Roller and slant Pole of the Pole Base from the oil, grease, etc.

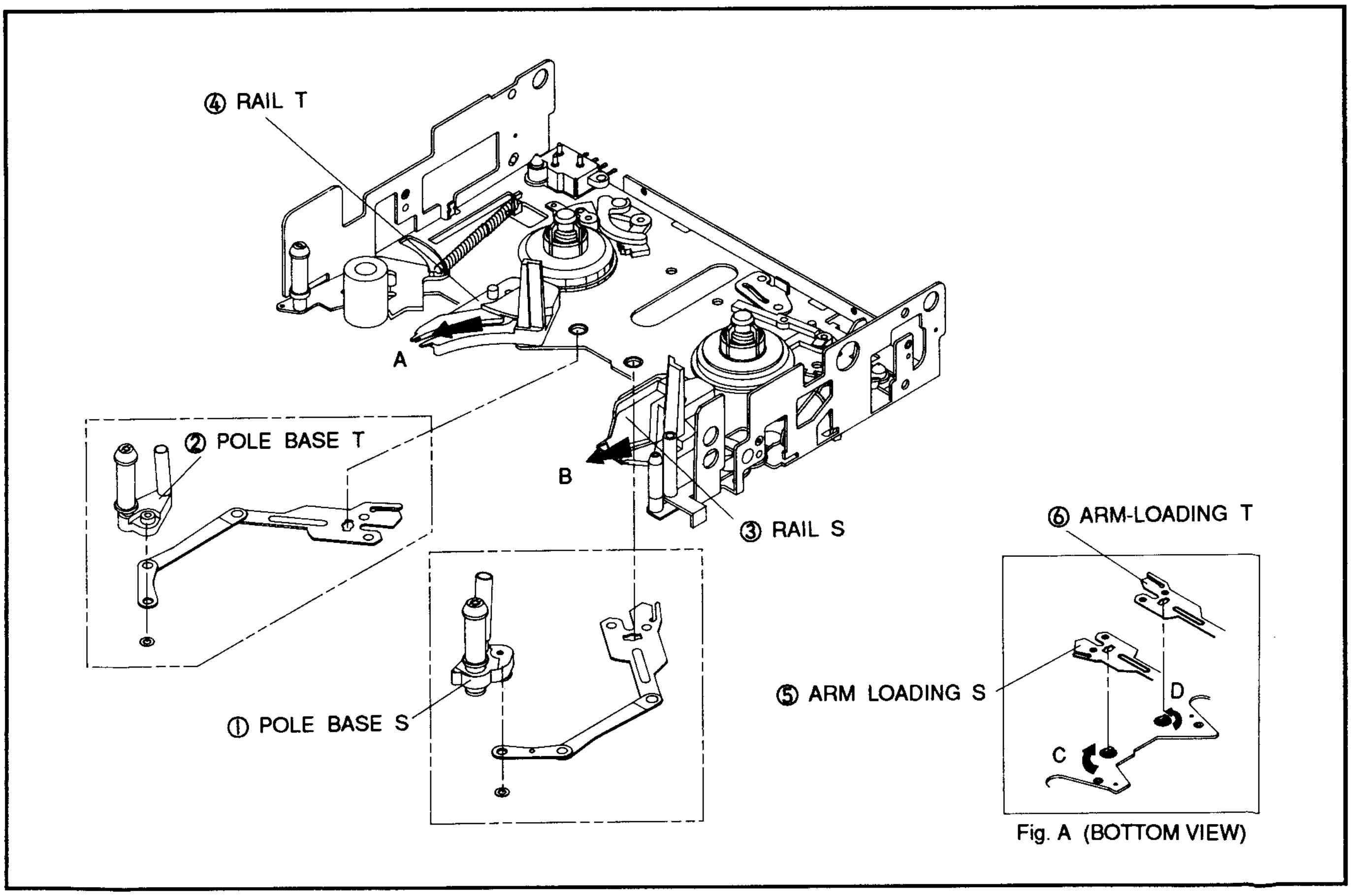

④ RAIL T
A
B
② POLE BASE T
③ RAIL S
⑥ ARM-LOADING T
⑤ ARM LOADING S
D
C
① POLE BASE S
Fig. A (BOTTOM VIEW)

Fig. 20

### 4-2-9. Pinch Roller Ass'y & Arm Review Ass'y

**1. Removal**

1) Remove two (2) Washer Slit ①, and then remove the Arm Review Ass'y ② and Spring Review Arm ③.
2) Take out the Spring Lever Pinch ⑤ from Claw ④, then remove the Arm Pinch Roller Ass'y ⑥.

**2. Reassembly**

1) Put the Arm Pinch Roller Ass'y ⑥ in the bush, and attach the Spring Lever Pinch ⑤ on the Claw ④.
2) Install it with the Washer Slit ①.
3) Put the Spring Review Arm ③ in the bush, and then hook it to the Spring Hanger Area ⑧ of the Arm Review Ass'y ② and to the notch of Stud-Slide ⑦.
4) Install the Arm Review Ass'y ② with the Washer Slit ①.

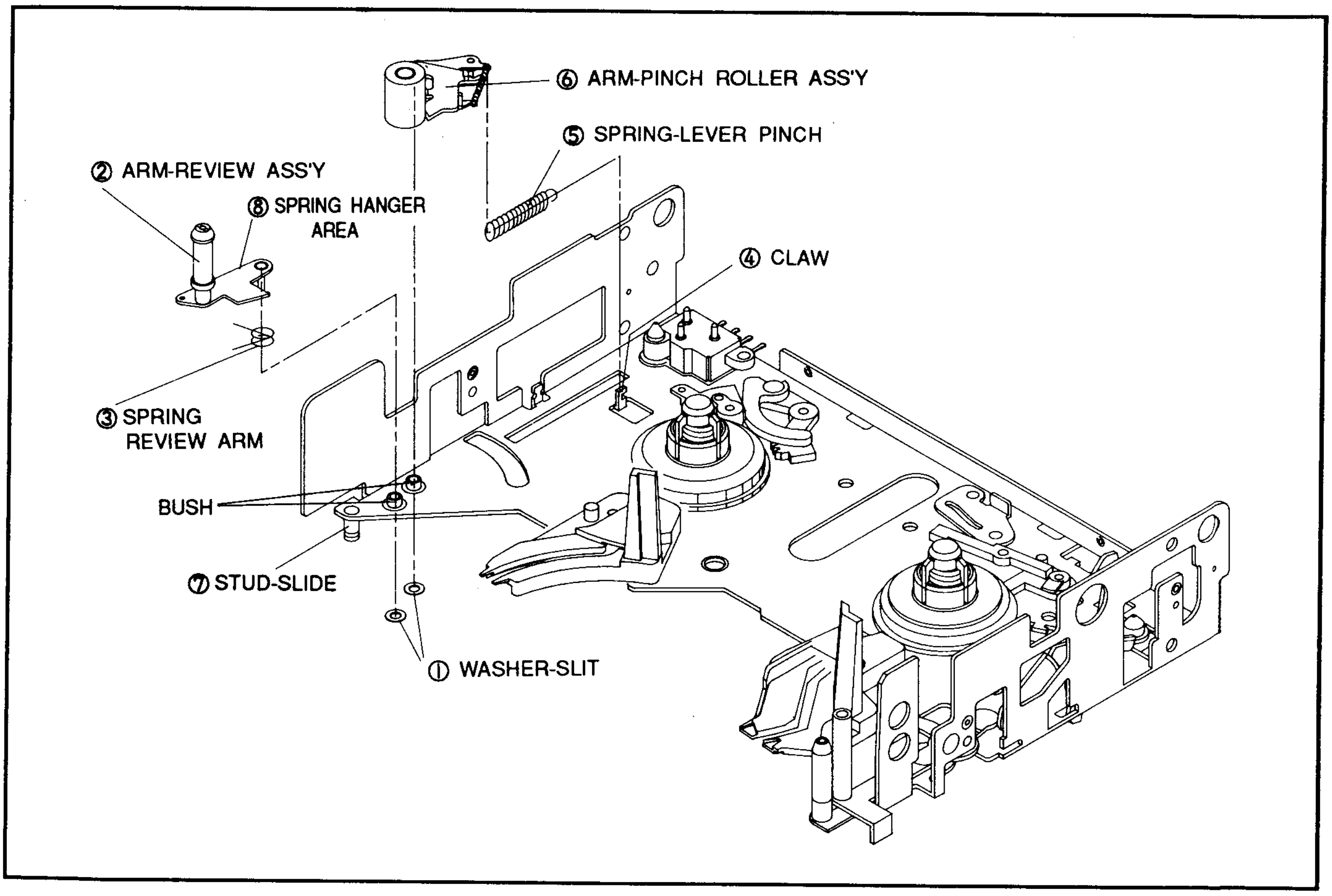

⑥ ARM-PINCH ROLLER ASS'Y
⑤ SPRING-LEVER PINCH
② ARM-REVIEW ASS'Y
⑧ SPRING HANGER AREA
④ CLAW
③ SPRING REVIEW ARM
BUSH
⑦ STUD-SLIDE
① WASHER-SLIT

Fig. 21

## 4-2-10. Arm Tension Ass'y, Lever Guide Ass'y

### 1. Removal

1) Remove the Washer Slit ① and then remove the screw ③.
2) Remove the spring of the Arm Tension Ass'y from the Claw ⑧, and then remove the Arm Tension Ass'y ⑤ from the Bush ②.
3) Release the Hook ⑬ of the Arm Tension Ass'y from the Hole ⑫, and then remove the Ass'y Band Tension.
4) Remove the Lever Guide Ass'y ⑥, and then remove the Slide L.G ⑦ from the Sub Deck Ass'y.

**Note :** Be careful not to damage and stain the Arm Tension's Pole part and Lever Guide Assy's Roller part with oil.

### 2. Reassembly

1) Mount the Slide L.G ⑦ in order to position the Bush into the Slit ⑨ of the Slide L.G ⑦.
2) Mount the Lever Guide Ass'y ⑥ to Bush ②, at that time place the Pin Lever Guide ⑪ into the Slit ⑩.
3) Mount the Arm Tension Assy's ⑤ shaft to the Lever Guide Ass'y ⑥ bush, and then attach the spring of the Arm Tension Ass'y ⑤ on the Claw ⑧.
4) Put in the Hook ⑬ of the Ass'y Band Tension ④ to the Hole ⑫, and then Mount the Ass'y Band Tension ④ so that its Dowel ⑮ aligns with the Slit 16 of the Sub Deck.
5) Install the Ass'y Band Tension ④ with the screw ③.
6) Install the Arm Tension Ass'y ⑤ with the Washer Slit ①.

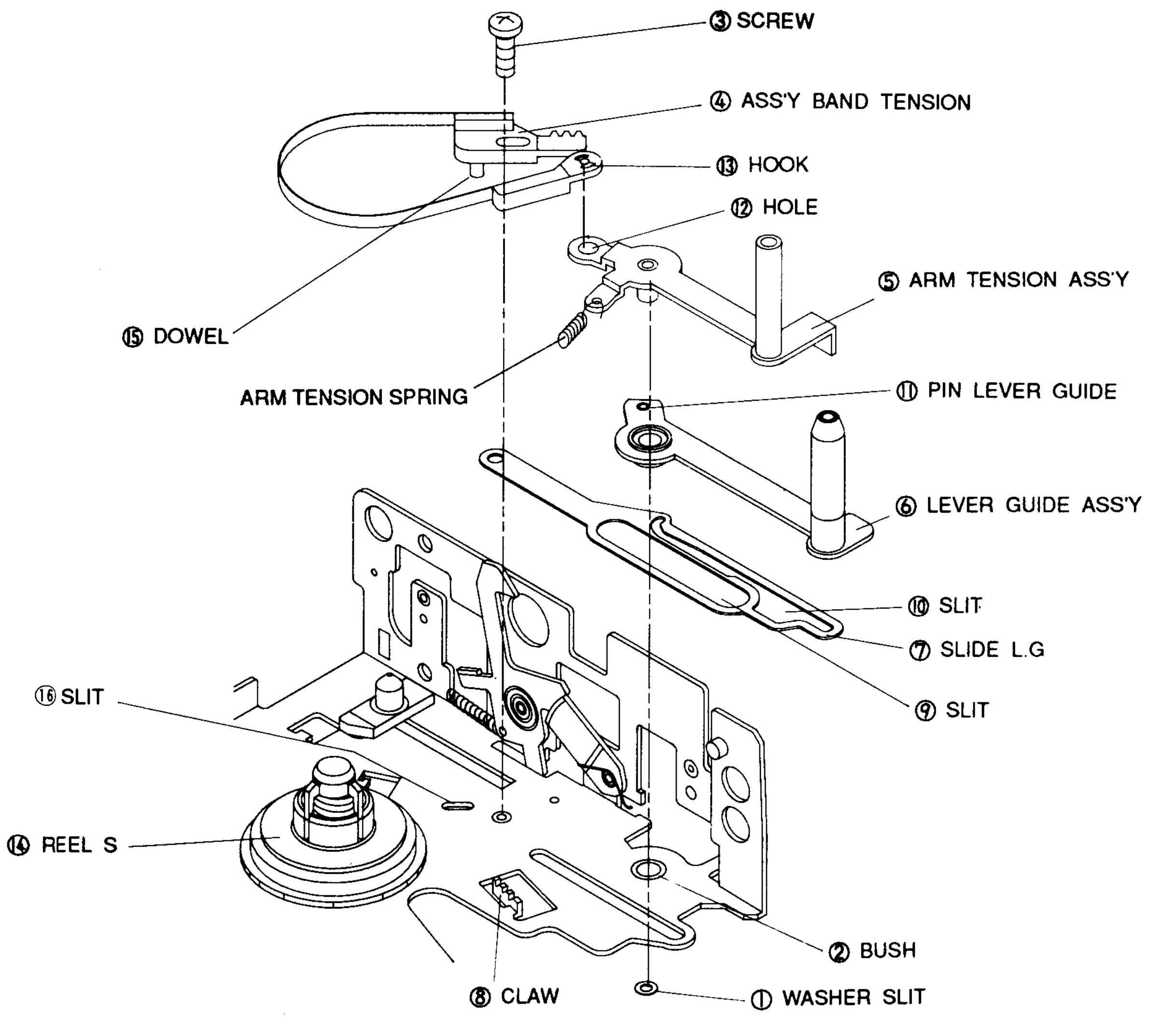

③ SCREW
④ ASS'Y BAND TENSION
⑬ HOOK
⑫ HOLE
⑤ ARM TENSION ASS'Y
⑮ DOWEL
ARM TENSION SPRING
⑪ PIN LEVER GUIDE
⑥ LEVER GUIDE ASS'Y
⑩ SLIT
⑦ SLIDE L.G
⑨ SLIT
⑯ SLIT
⑭ REEL S
② BUSH
⑧ CLAW
① WASHER SLIT

Fig. 22

### 4-2-11. Rail Guide S, Rail Guide T, Locker-Sub Chassis

**1. Removal**

1) Remove the Arm Pole Base S, Arm Pole Base T.
(Refer to Fig. 20)
2) Remove the screw ①, then remove the Rail Guide T ②.
3) Remove the screw ③, then remove the Rail Guide S ④.
4) Remove the two screws ⑤, and then remove the Locker Sub Chassis ⑥.

**2. Reassembly**

1) Install in reverse order.

**Note :**
1) After installing the Rail Guide S ④ and the Rail Guide T ②, make sure that projection boss on the bottom side and the hole are aligned correctly.
2) Be sure to use the standard screws.

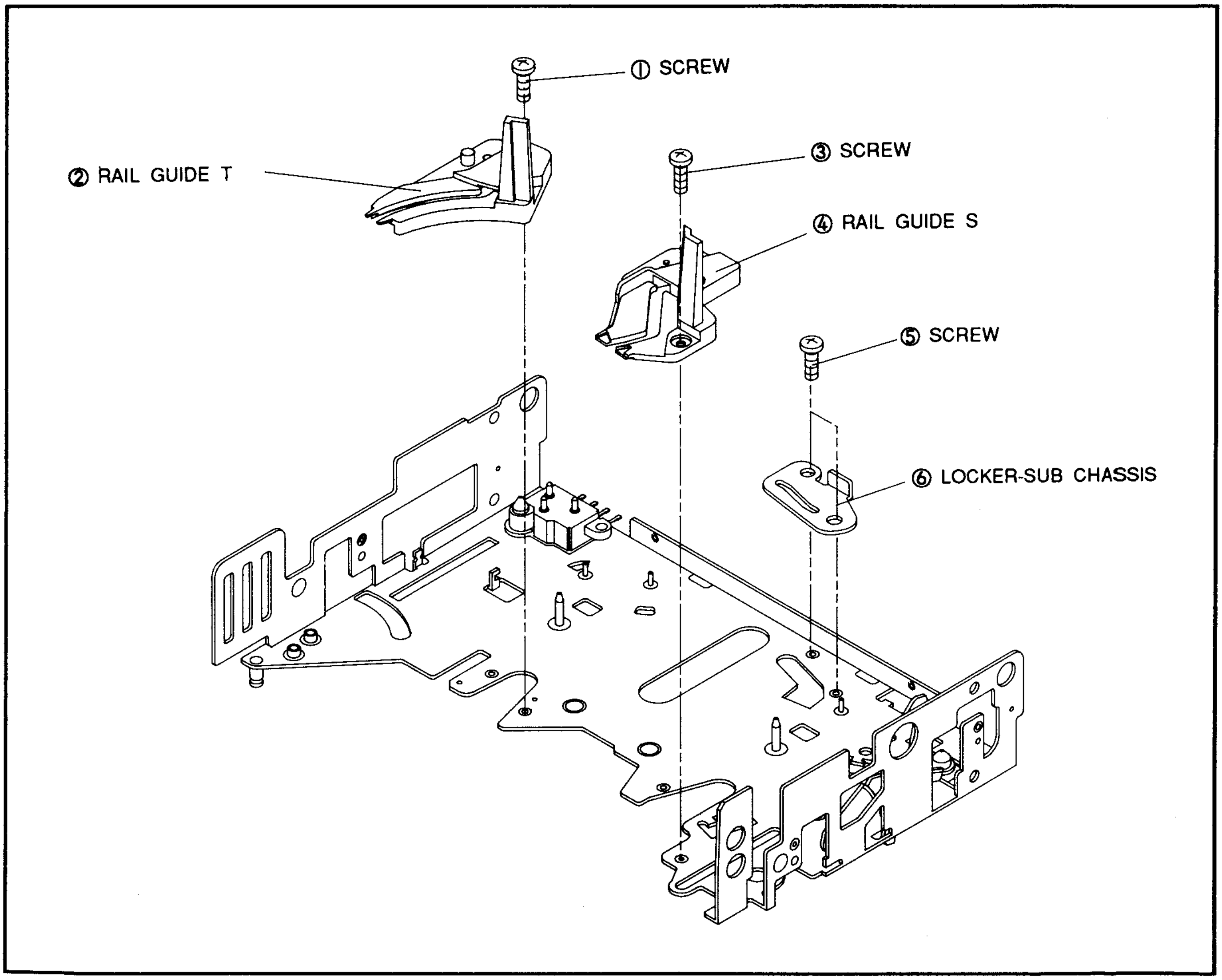

① SCREW
② RAIL GUIDE T
③ SCREW
④ RAIL GUIDE S
⑤ SCREW
⑥ LOCKER-SUB CHASSIS

Fig. 23

### 4-2-12. Reel S, T Ass'y, Arm Clutch, Lever Brake S, T

**1. Removal**

1) Remove the Ass'y Tension Band. (Refer to Fig. 22)
2) Remove the Washer Slit ①, and then remove the Lever Brake S ② and Spring Lever Brake S ③.
3) Remove the Washer Slit ④, and Spring Arm Brake S ⑤, and then remove the Arm Brake S ⑥.
4) Lift up the Reel S ⑦, and then take out the Washer Plane ⑧.
5) Remove the Washer Slit ⑩, and then remove the Lever Brake T ⑪.
6) Remove the Washer Slit ⑫, and then remove the Ass'y Arm Clutch ⑬.
7) Lift up the Reel T ⑨.

**2. Reassembly**

1) Mount the Reel T ⑨.
2) Put the Ass'y Arm Clutch ⑬ into the slit Home ⑭ of the Sub Deck Ass'y, and then install it with the Washer Slit ⑫.
3) Put the Lever Brake T ⑪ into the Slit Home ⑮ of the Sub Deck Ass'y, and then install it with the Washer Slit ⑩.
4) Put in the Washer Plane ⑧ into shaft, and then mount the Reel S ⑦ to shaft.
5) Put in the Arm Brake S ⑥, and install the Spring Arm Brake S ⑤ (Refer to Fig. A), and then install it with the Washer Slit ④.
6) Put in the Spring Lever Brake S ③, and install the Lever Brake S ② (Refer to Fig. A), and then install the Washer Slit ①.

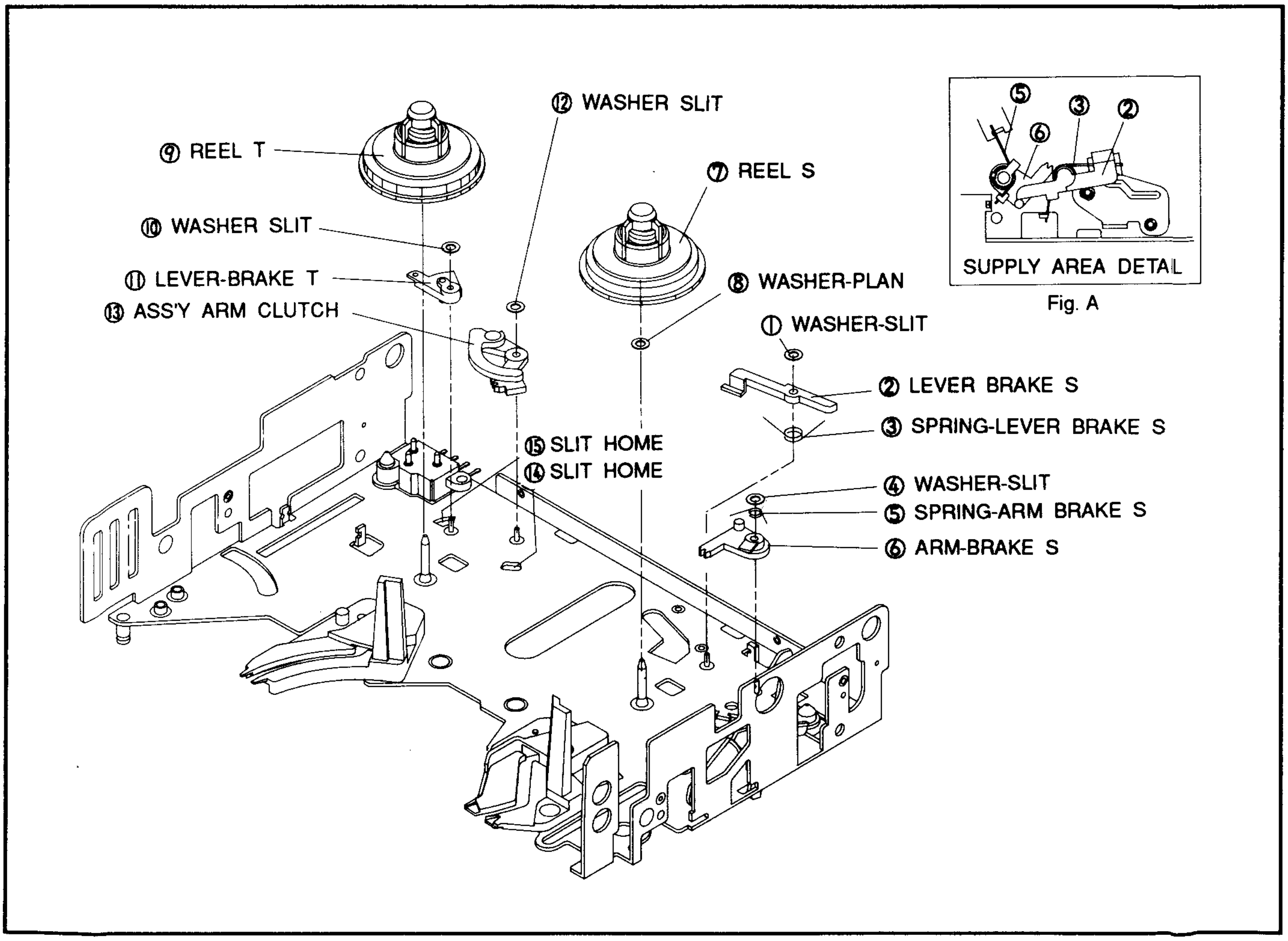

⑫ WASHER SLIT
⑨ REEL T
⑦ REEL S
⑩ WASHER SLIT
⑪ LEVER-BRAKE T
⑬ ASS'Y ARM CLUTCH
⑧ WASHER-PLAN
① WASHER-SLIT
② LEVER BRAKE S
③ SPRING-LEVER BRAKE S
⑮ SLIT HOME
⑭ SLIT HOME
④ WASHER-SLIT
⑤ SPRING-ARM BRAKE S
⑥ ARM-BRAKE S
⑤
③
②
⑥
SUPPLY AREA DETAIL
Fig. A

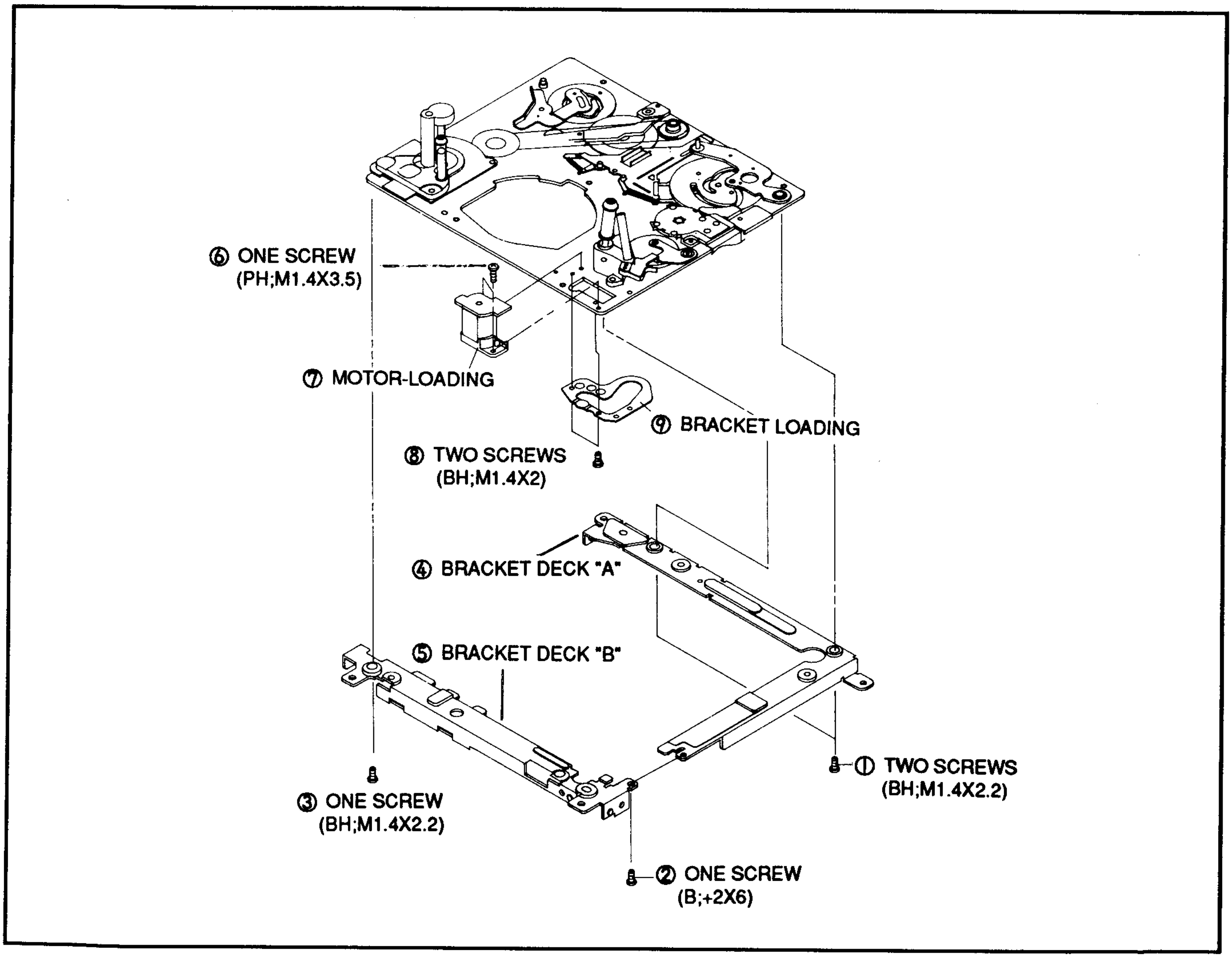
Fig. 24

### 4-2-13. Loading Motor

**1. Removal**

1) Remove four (4) screws ①, ②, ③, then remove the bracket deck "A" and "B" ④, ⑤.
2) Remove one (1) screw ⑥, then remove the motor loading ⑦.
3) Remove two (2) screws ⑧, then remove the Bracket loading ⑨.

**2. Reassembly : Install in reverse order.**



⑥ ONE SCREW (PH;M1.4X3.5)
⑦ MOTOR-LOADING
⑨ BRACKET LOADING
⑧ TWO SCREWS (BH;M1.4X2)
④ BRACKET DECK "A"
⑤ BRACKET DECK "B"
① TWO SCREWS (BH;M1.4X2.2)
③ ONE SCREW (BH;M1.4X2.2)
② ONE SCREW (B;+2X6)

Fig. 25

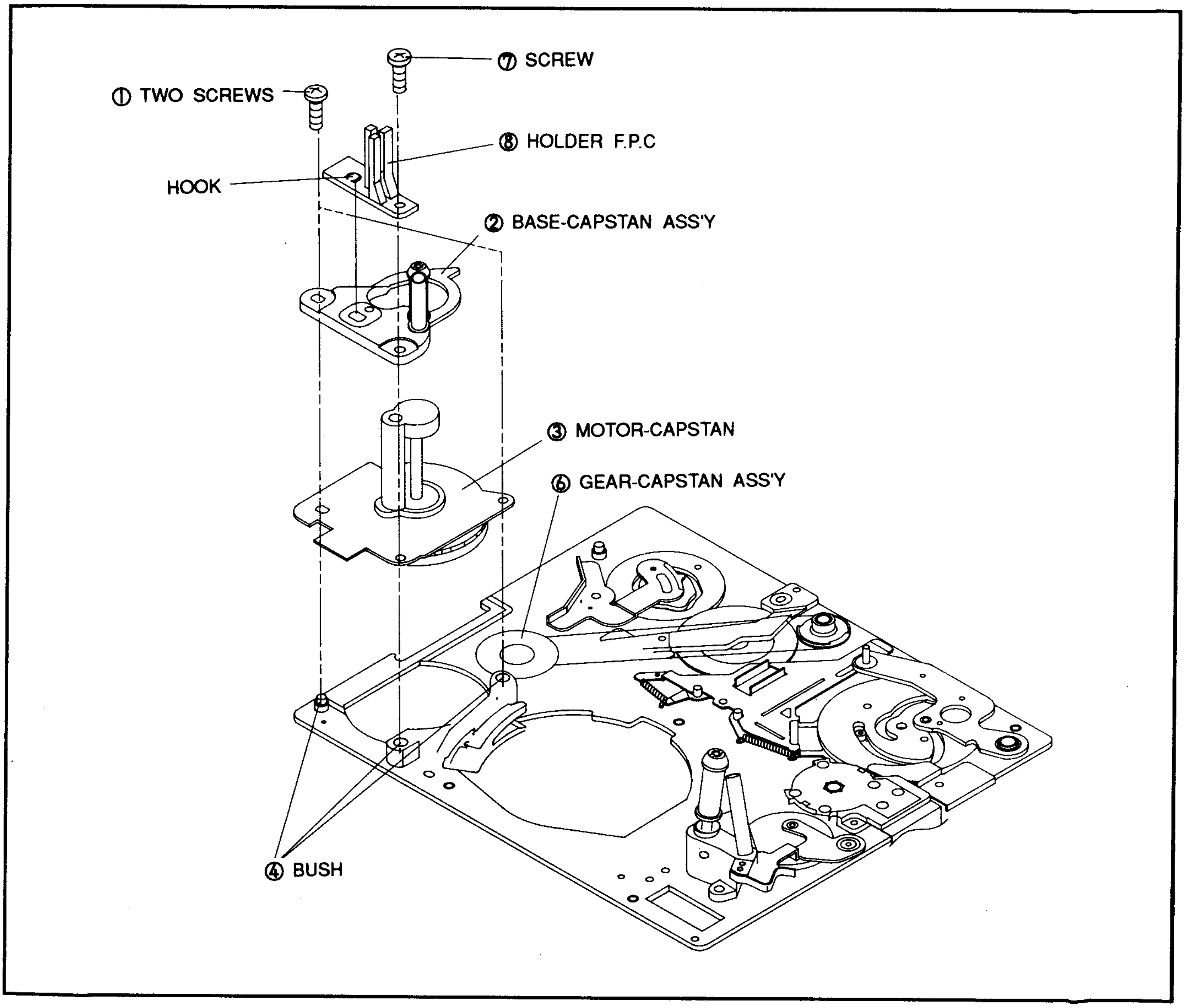
### 4-2-14. Motor Capstan, Base Capstan Ass'y

**1. Removal**

1) Remove two (2) screws ① and one screw ⑦.
2) Remove the Base Capstan Ass'y ② from two (2) Bush ④, then remove Holder F.P.C ⑧ by releasing hook.
3) Remove the Motor Capstan ③ from the three Bush ④.

**2. Reassembly : Install in reverse order.**

**Note** : When assembling, make sure that the gears of Motor Capstan ③ and the gears of Gear Capstan Ass'y ⑥ are matched correctly.



⑦ SCREW
① TWO SCREWS
⑧ HOLDER F.P.C
HOOK
② BASE-CAPSTAN ASS'Y
③ MOTOR-CAPSTAN
⑥ GEAR-CAPSTAN ASS'Y
④ BUSH

Fig. 26

### 4-2-15. Rail Middle R/L, Gear Capstan Ass'y, Gear Pully Ass'y, Cover Time Belt

**1. Removal**

1) Remove the Rail Middle R ①, then remove the screw ②, and then remove the Rail Middel L ③ from the Main Deck.
2) Remove the Gear Pully Ass'y ④ from the axle which is attached to the Belt Timing.
3) Remove the Washer Slit ⑥, then the Gear Capstan Ass'y ⑦ from the axle with the timing belt ⑤.
4) Remove the two (2) screws ⑧, then remove the Cover Timing Belt ⑨.

**2. Reassembly**

1) Mount the Cover Timing Belt ⑨ on the Main Deck, then secure it with the two (2) screws ⑧.
2) Fit the Gear Capstan Ass'y ⑦ to the axle, and then install the Washer Slit ⑥.
3) Attach the Belt Timing ⑤ between the low Gears of the Gear Capstan Ass'y ⑦ and the low Gears of the Gear Pully Ass'y ④, and then fit the Gear Pully Ass'y ④ into the axle with the Belt Timing ⑤ attached. (See Fig. A)
4) Mount the Rail Middle L ③ on the Main Deck, then secure it with the one (1) screw ②, and then Mount the Rail Middle R ① to the Bush.

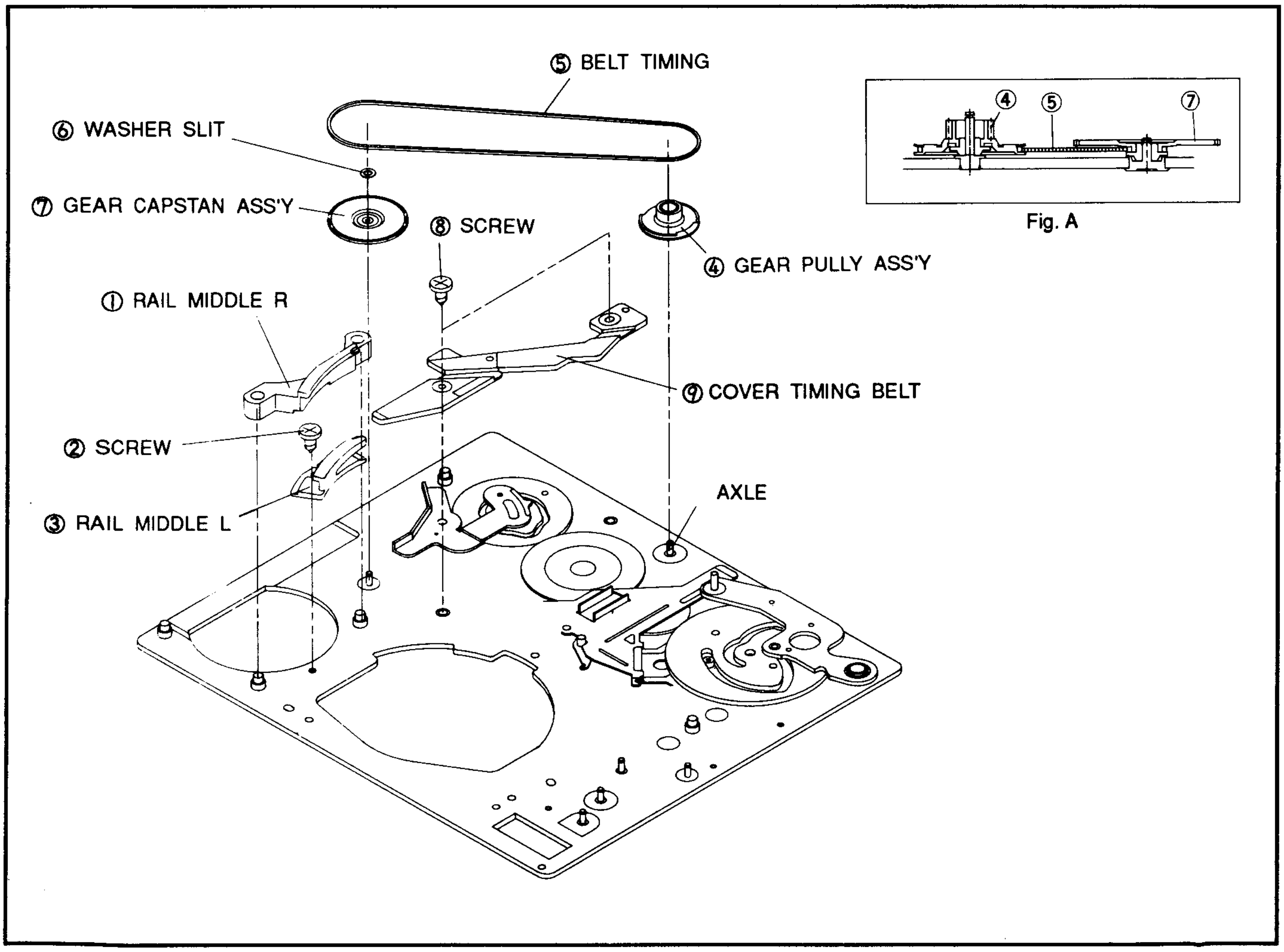

⑤ BELT TIMING
⑥ WASHER SLIT
⑦ GEAR CAPSTAN ASS'Y
⑧ SCREW
④ GEAR PULLY ASS'Y
① RAIL MIDDLE R
⑨ COVER TIMING BELT
② SCREW
AXLE
③ RAIL MIDDLE L
④
⑤
⑦
Fig. A

Fig. 27

## 4-2-16. Lever Cam Pinch Ass'y, Gear Cam Pinch

### 1. Removal

1) Remove the two (2) screws ①, then remove the Lever Cam Pinch ② from the Main Deck.
2) Remove the Gear Cam Pinch ③ from the Main Deck.

### 2. Reassembly

1) Align the hole of Gear Cam Pinch ③ with the hole of Main Base. (Refer to Timing "A")
2) Insert the Lever Cam Pinch ② into the slit of Gear Cam Pinch ③ and secure it with two (2) screws. (Refer to timing "B")

Note : When installing the Gear parts, refer to Fig. 31.

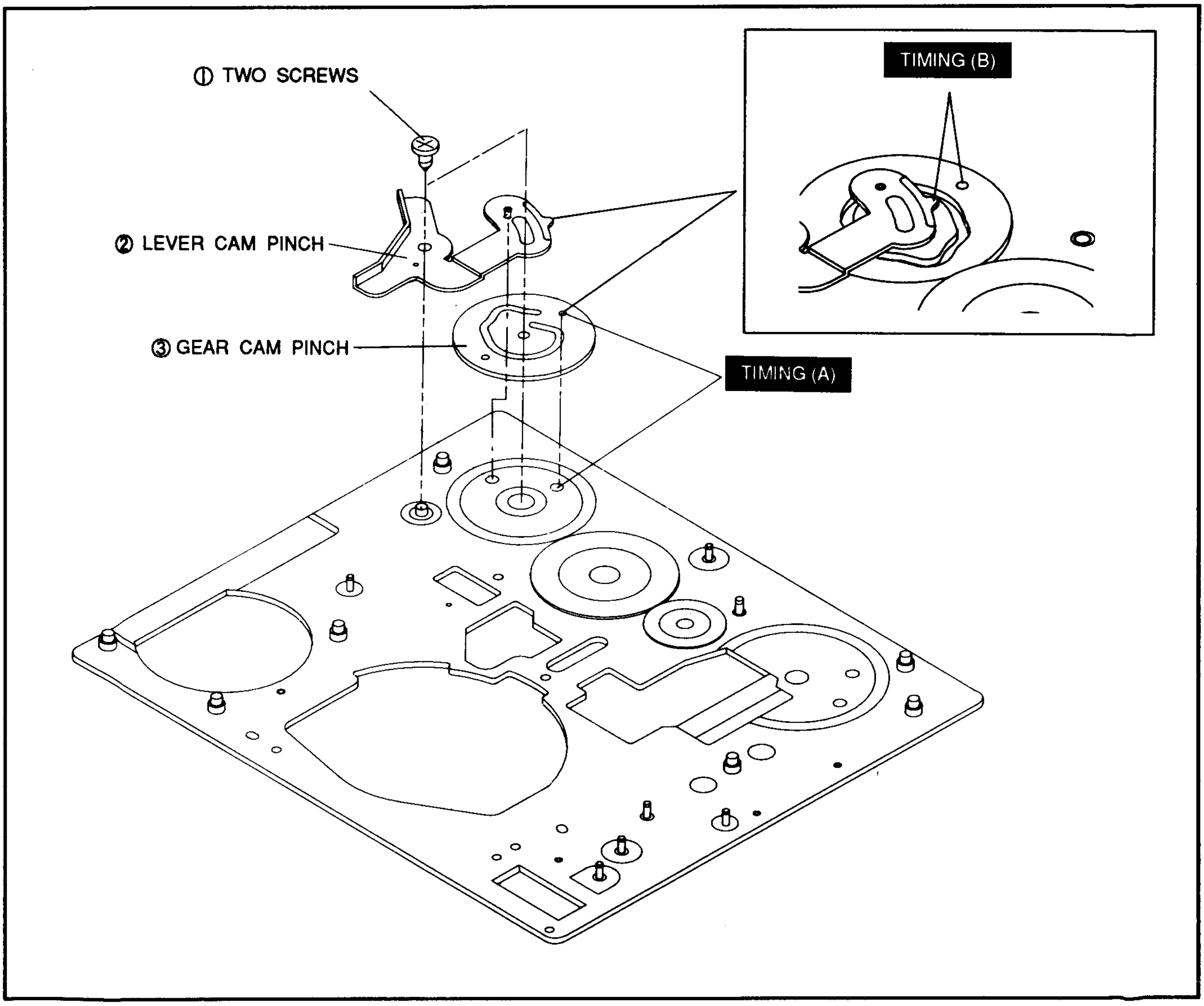

① TWO SCREWS
② LEVER CAM PINCH
③ GEAR CAM PINCH
TIMING (B)
TIMING (A)

Fig. 28

### 4-2-17. Pole Base Sub Ass'y, Switch Mode Ass'y, Lever Cam Tension, Gear Loading A, Gear Loading B, Gear Cam Tension

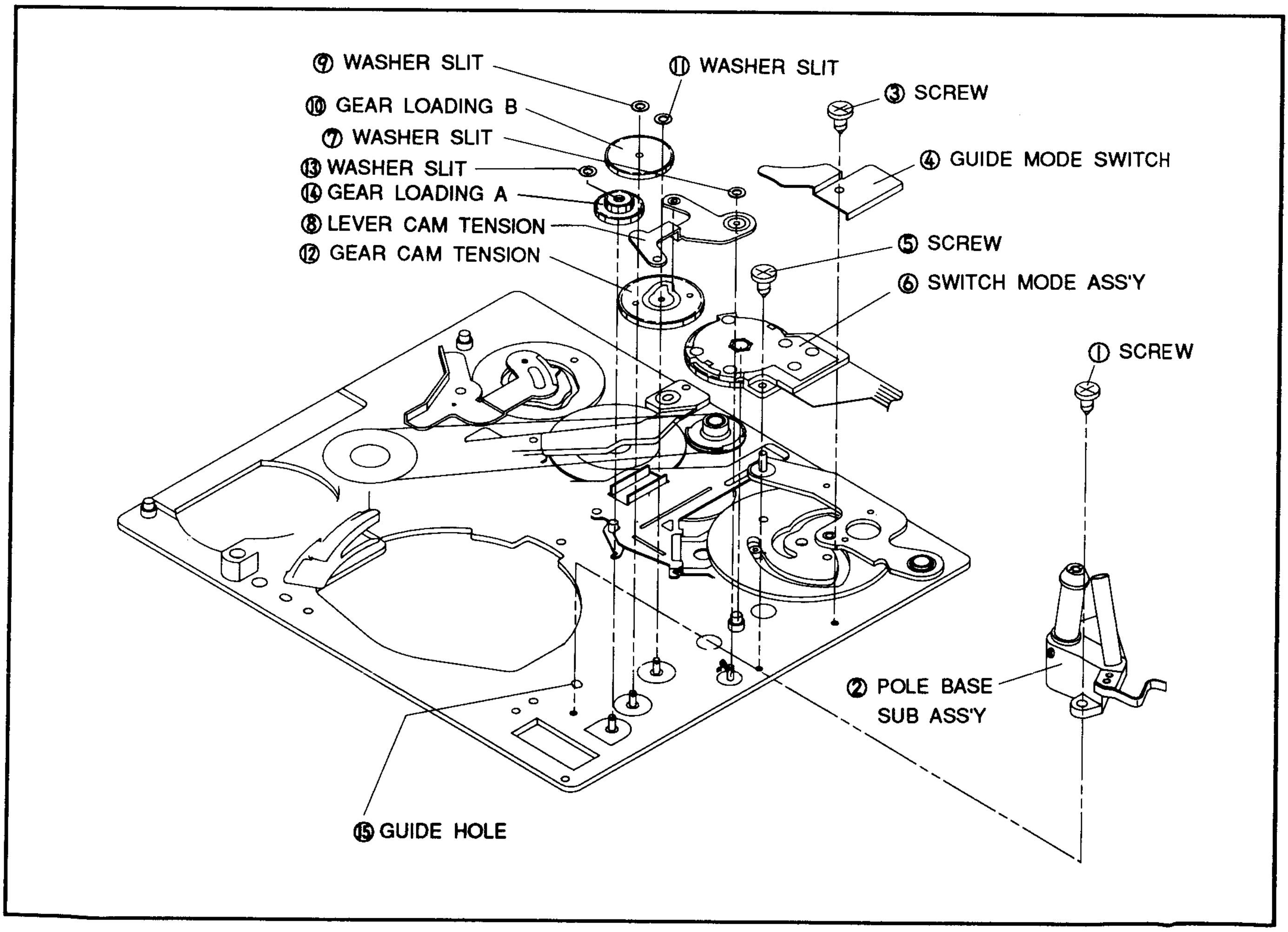
**1. Removal**

1) Remove one (1) screw ①, then remove the Pole Base Sub Ass'y ②.
2) Remove one (1) screw ③, then remove the Guide Mode Switch ④.
3) Remove one (1) screw ⑤, then remove the Switch Mode Ass'y ⑥.
4) Remove the Washer Slit ⑦, then remove the Lever Cam Tension ⑧.
5) Remove the Washer Slit ⑨, then remove the Gear Loading B ⑩.
6) Remove the Washer Slit ⑪, then remove the Gear Cam Tension ⑫.
7) Remove the Washer Slit ⑬, then remove the Gear Loading A ⑭ of the axle.

**2. Reassembly**

1) Mount the Switch Mode Ass'y ⑥ as described in Timing point (F) of Fig. 31, then secure it with one (1) screw ⑤.
2) Mount the Guide Mode Switch ④, then secure it with one (1) screw ③.
3) Fit the Gear Loading A ⑭ into the axle and then install it with the Washer Slit ⑬.
4) Mount the Gear Cam Tension ⑫ as described in Timing point (G) of Fig. 31, and then install it with the Washer Slit ⑪.
5) Fit the Gear Loading B ⑩ into the axle, then install it with the Washer Slit ⑨.
6) Mount the Lever Cam Tension ⑧ as described in Timing (H) of Fig. 31, then install it with the Washer Slit ⑦.
7) Align the dowel of the Pole Base Sub Ass'y ② with the Guide Hole ⑮, then mount the Pole Base Sub Ass'y ②, and secure it with the screw ①.

**Note :** Confirm the Timing point of the Switch Mode Ass'y (See Fig. 31).



⑨ WASHER SLIT
⑩ GEAR LOADING B
⑦ WASHER SLIT
⑬ WASHER SLIT
⑭ GEAR LOADING A
⑧ LEVER CAM TENSION
⑫ GEAR CAM TENSION
⑪ WASHER SLIT
③ SCREW
④ GUIDE MODE SWITCH
⑤ SCREW
⑥ SWITCH MODE ASS'Y
① SCREW
② POLE BASE SUB ASS'Y
⑮ GUIDE HOLE

Fig. 29

## 4-2-18. Lever Cam, Lever Eject, Gear Cam Main, Plate Slider Ass'y

### 1. Removal

1) Remove the Lever Cam Ass'y ① and Roller Cam Main ②.
2) Remove the Lever Eject ③.
3) Remove one (1) screw ④, then remove the Gear Cam Main ⑤.
4) Push the Plate Slide Ass'y ⑦ in the direction of arrow A and remove Plate Slide Ass'y ⑦ and the Roller Cam Main ⑥.

> **Note :**
> a) To remove the Gear-Cam Main, remove the Guide Mode Switch first. (Refer to 4-2-17)
> b) When removing the Gear Cam Main ⑤, and Lever Cam Main ① from the Main Deck, take care not to lose the Roller Cam Main ②, ⑥. (Refer to Fig. A and Fig. B)

### 2. Reassembly

1) Insert the Roller Cam Main ⑥ to the Plate Slider Ass'y ⑦ as described in Fig. A, then Mount it to the Main Deck.
2) Pull the Plate Slider Ass'y ⑦ in the direction of arrow B.
3) Install the Gear Cam Main ⑤ so that the hole of Gear Cam Main ⑤ and the hole of Main Base are aligned as shown in the "Timing (D)", then secure it with one (1) screw ④.
4) Install the Lever-Eject on the pin of the Main Base.
5) Insert the Lever Cam Ass'y ① into the groove of the Gear Cam Main ⑤ as shown in the Timing (E).

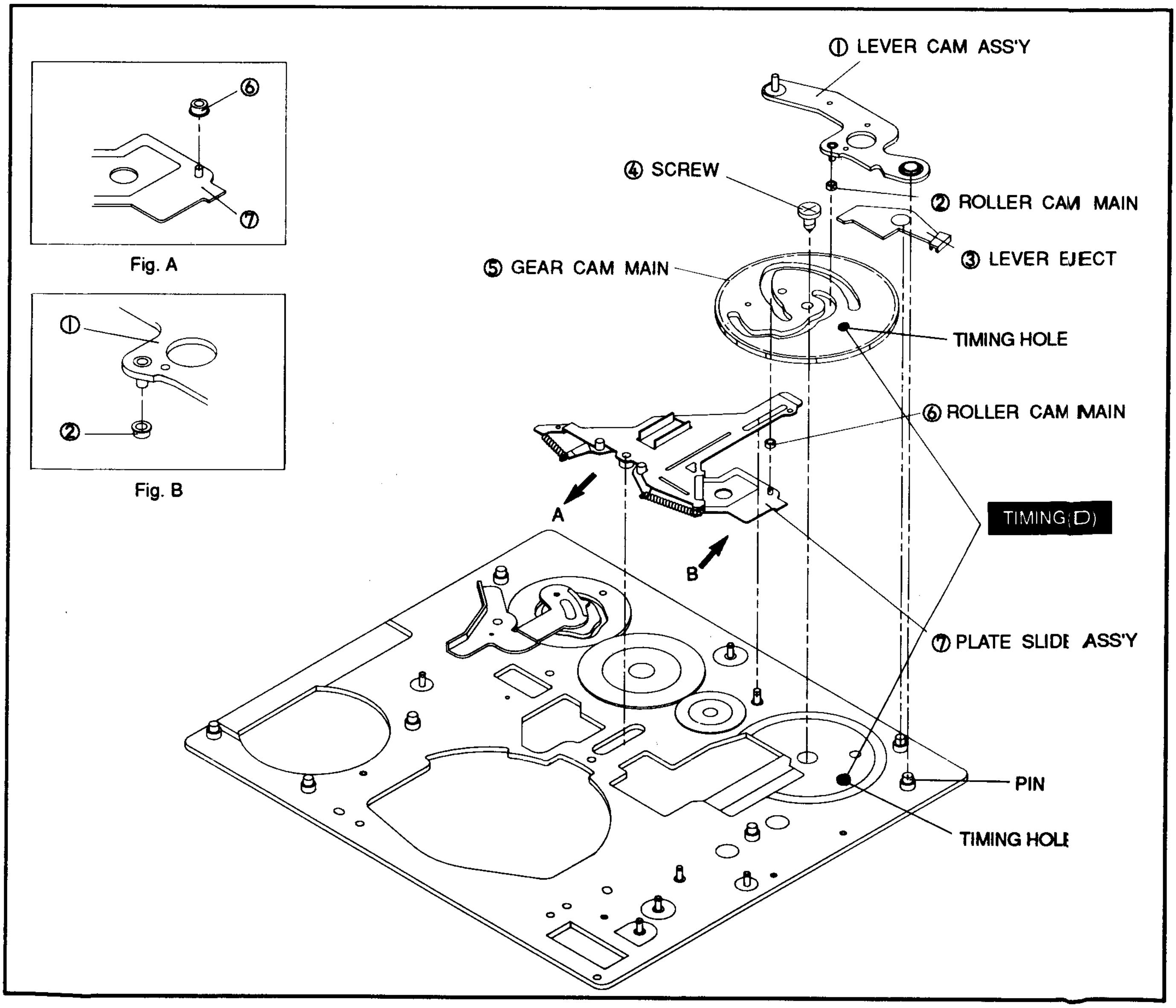

⑥
⑦
①
②
① LEVER CAM ASS'Y
④ SCREW
② ROLLER CAM MAIN
③ LEVER EJECT
⑤ GEAR CAM MAIN
TIMING HOLE
⑥ ROLLER CAM MAIN
A
B
TIMING(D)
⑦ PLATE SLIDE ASS'Y
PIN
TIMING HOLE

Fig. A

Fig. B

Fig. 30

## 4-2-19. Timing Point in Main Deck

### 1. Timing Point Explanation

**TIMING A** : Align install Hole of Gear Cam Pinch ⑦ with Hole on Main Base.
**TIMING B** : When installing Lever Cam Pinch to Gear Cam Pinch, Timing "B" point of Cam as described in Fig. 31.
**TIMING C** : After assembling Plate Slider Ass'y ⑥, when installing Gear Cam Main ④, pull the plate Slider Ass'y ⑥ toward arrow and then install the Gear Cam Main ④.
**TIMING D** : Align Hole of Gear Cam Main ④ with large hole on Main Base.
**TIMING E** : When installing Lever Cam ⑤ to Gear Cam Main ④, Timing "E" point of Cam as described in Fig. 31.
**TIMING F** : When assembling the Gear Cam Main ④ and the Mode Switch Ass'y ③.
**TIMING G** : When assembling the Mode Switch Ass'y ③ and the Gear Cam Tension ①.
**TIMING H** : When installing Lever Cam Tension ② to Gear Cam Tension ①, Timing "H" point of Cam as described in Fig. 31.

**Note** : 1) Gear Train is installed A, B, C, D and E in order.
2) If install points (Timing Points) of Gear Trains are mismatched, malfunction and part damage may occur. Special precaution is required to prevent it.

### 2. Important timing to assemble Sub-Deck

After finishing assembly of Gear Train, rotate Gear Cam Main ④ to align 3 holes of install point, as desciebed in Fig. A, in order to assemble Sub Deck.

**Note** : If loading Motor is installed, Gear Train will not be working. But Loading Motor can be moved by Power Supply giving 3V to Loading Motor.

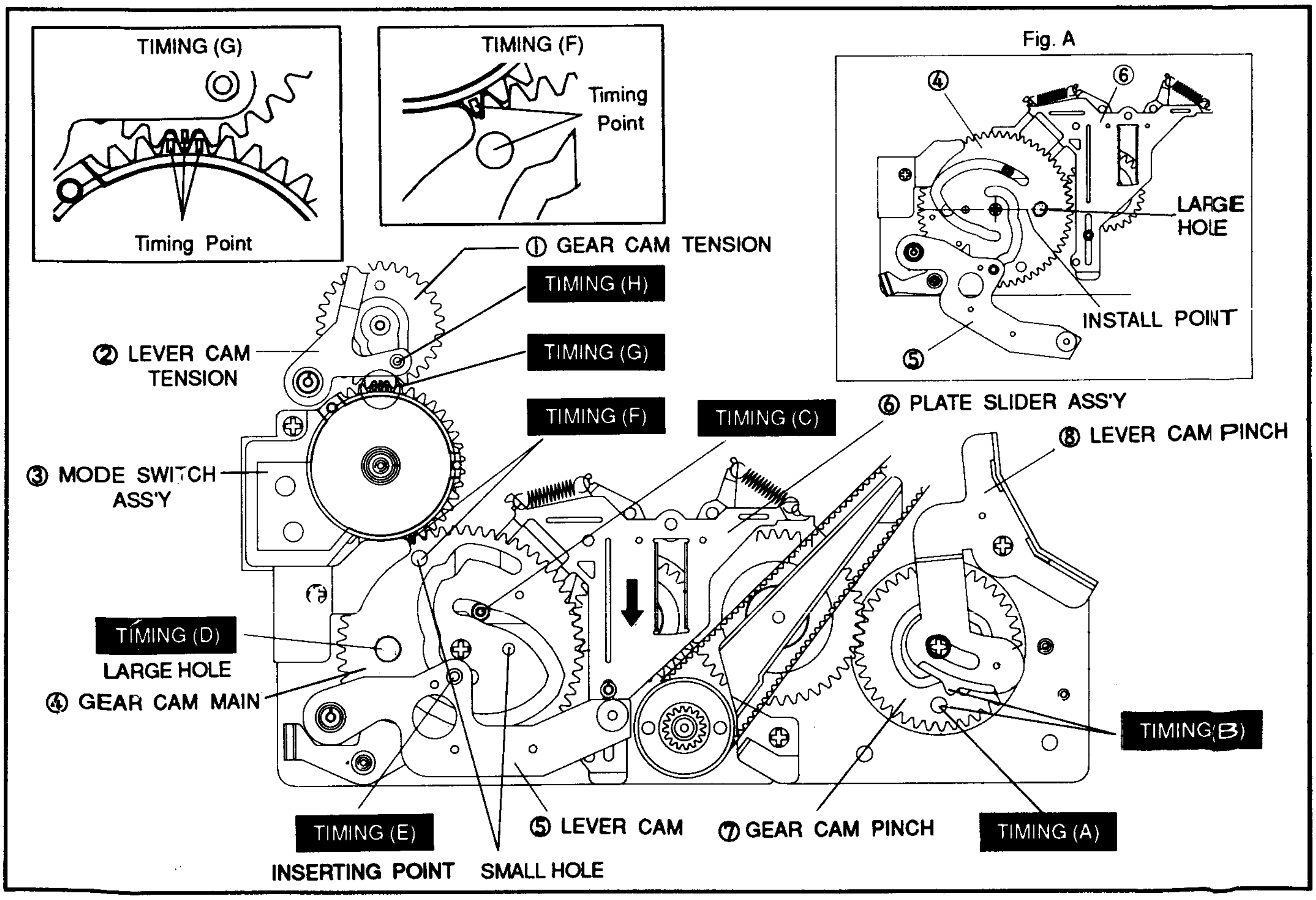

TIMING (G)
Timing Point
TIMING (F)
Timing Point
Fig. A
④
⑥
LARGE HOLE
INSTALL POINT
⑤
① GEAR CAM TENSION
TIMING (H)
② LEVER CAM TENSION
TIMING (G)
TIMING (F)
TIMING (C)
⑥ PLATE SLIDER ASS'Y
⑧ LEVER CAM PINCH
③ MODE SWITCH ASS'Y
TIMING (D)
LARGE HOLE
④ GEAR CAM MAIN
TIMING (B)
TIMING (E)
INSERTING POINT
SMALL HOLE
⑤ LEVER CAM
⑦ GEAR CAM PINCH
TIMING (A)

Fig. 31

# 5. ABBREVIATIONS

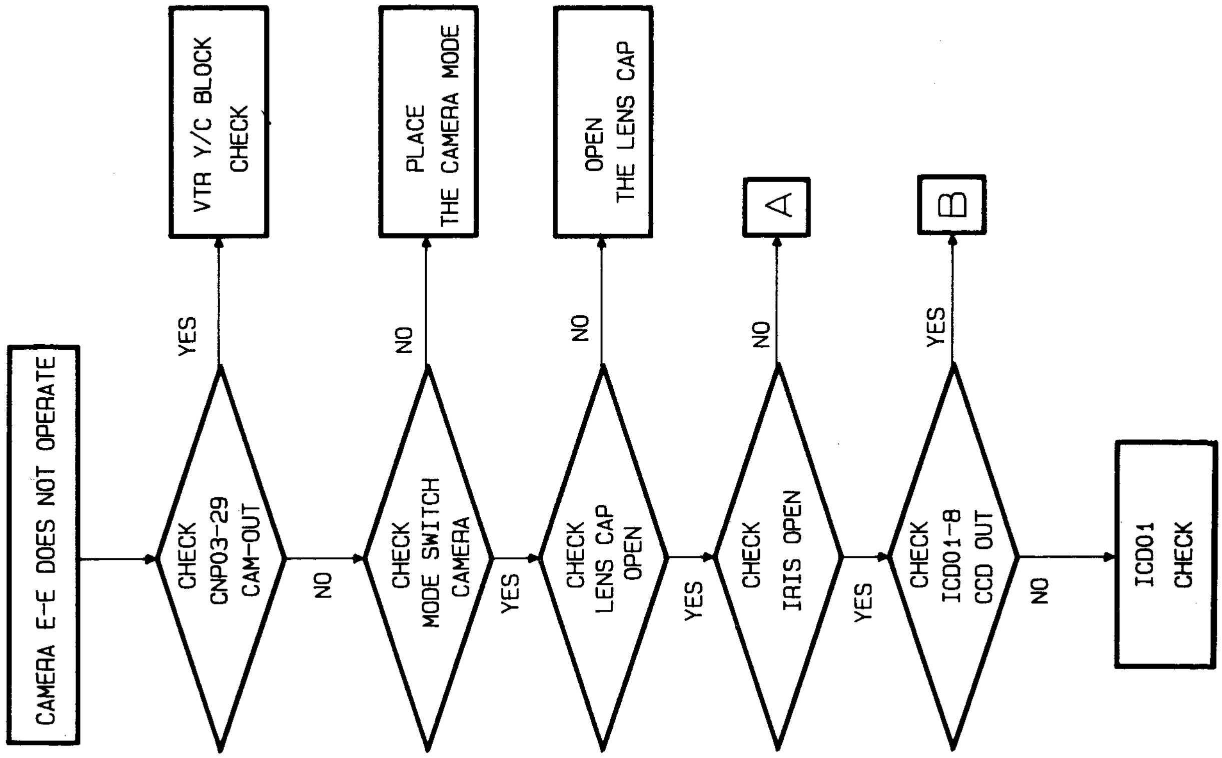
| ABBREVIATION | EXPLANATION |
|---|---|
| ACC | Automatic Color Control |
| ACK | Automatic Color Killer |
| ADJ | Adjustment |
| A/D | Analog/Digital |
| AE | Auto Exposure |
| AF | Auto Focus |
| AFC | Automatic Frequency Control |
| AFM | Audio Frequency Modulation |
| AGC | Automatic Gain Control |
| AMP | Amplifier |
| APC | Automatic Pedestal Control |
| ASS'Y | Assembly |
| ATF | Automatic Track Finding |
| ATT | Attenuator |
| AUTO | Automatic |
| AUX | Auxiliary |
| BATT | Battery |
| BF | Burst Flag |
| BFG | Burst Flag Gate |
| BLC | Back Light Compensation |
| BLK | Black |
| BPF | Band Pass Filter |
| BUFF | Buffer |
| B/W | Black/White |
| CAM | Camera |
| CAMCORDER | Camera Recorder |
| CAP | Capstan |
| CAR | Carrier |
| CASS | Cassette |
| CBA | Circuit Board Assembly |
| CCD | Charge Coupled Device |
| CH | Channel |
| CHROMA or C | Chrominance |
| CLK | Clock |
| CLP | Clamp |
| CM | Capstan Motor |
| CN | Connector |
| CNR | Chroma Noise Reduction |
| COM | Common |
| COMB | Comb Filter |
| COMP | Composite |
| CRT | Cathode Ray Tube |
| CS | Chip Selector |
| CTL | Control |
| D/A | Digital/Analog |
| dB | Decibel (Measurement Unit) |
| DC | Direct Current |
| DD | Direct Drive |
| DEMOD | Demodulator |
| DET | Detect |
| DL | Delay Line |
| DOC | Drop Out Compensater |
| DY | Deflection Yoke |
| E-E | Electronic to Electronic |
| EMP | Emphasis |
| ENV | Envelope |
| EQ | Equalizer |
| EXT | External |
| EVF | Electronic View Finder |
| F/E | Flying Erase |
| FET | Field Effect Transistor |
| FF | Fast Forward, Flip-Flop |
| FG | Frequency Generator |
| FL | Filter |
| FM | Frequency Modulation |
| FPC | Flexible Pattern Circuit |
| FPS | Forward Picture Search |
| Freq. | Frequency |
| FSC | Frequency Sub Carrier |
| FWD | Forward |
| GC | Gain Control |
| GEN | Generator |
| GND | Ground |
| GRN | Green |
| GRY | Gray |
| HD | Head, Horizontal Drive |
| HG | Hall Generator |
| HPF | High Pass Filter |
| Hz | Hertz |
| IC | Integrated Circuit |
| IR | Infrared |
| INT | Interrupter |
| I/O | Input/Output |
| IRE | Institute of Radio Engineers |
| LCD | Liquid Crystal Display |
| LED | Light Emitting Diode |
| LM | Loading Motor |
| LP | Long Play |
| LPF | Low Pass Filter |
| MAX | Maximum |
| M/F | Manual Focus |
| MIC | Microphone |
| MIN | Minimum |
| MIX | Mixer |

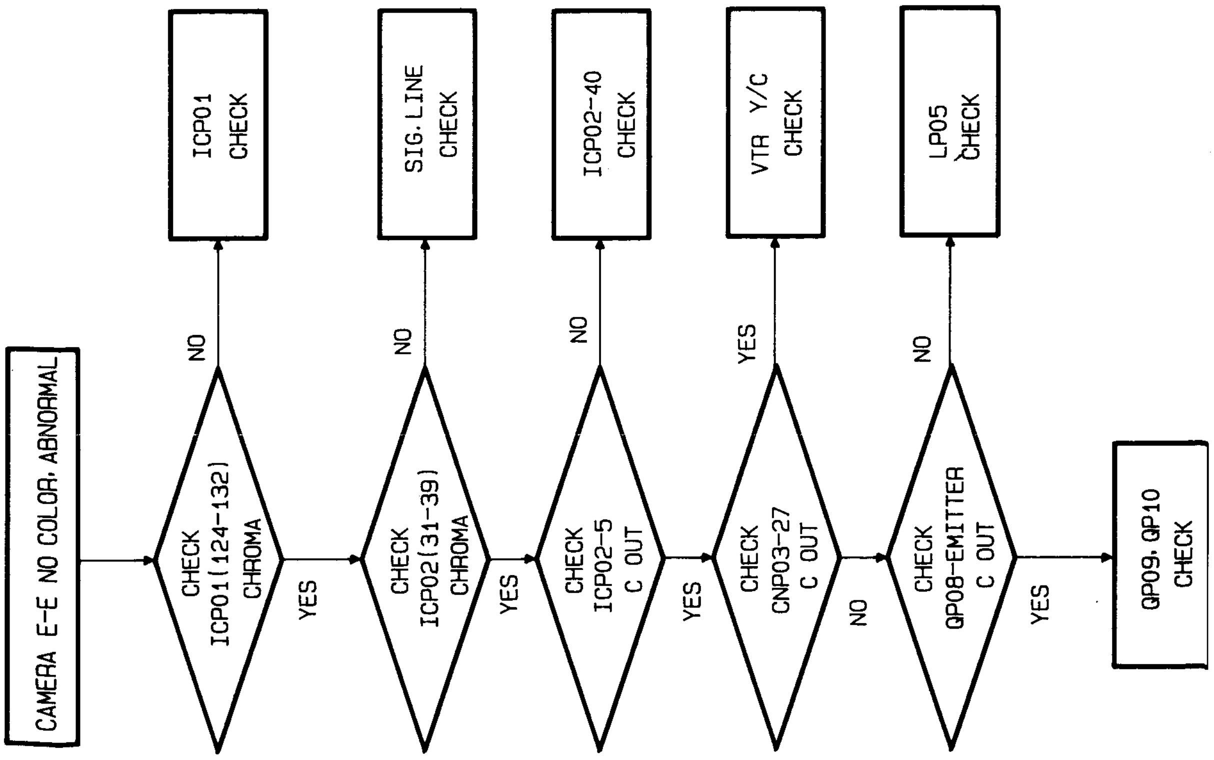
| ABBREVIATION | EXPLANATION |
|---|---|
| MODED | Modulator-Demodulator |
| MTX | Matrix |
| NC | Not Connected |
| NR | Noise Reduction |
| NOR | Normal |
| OFD | Overflow Drain |
| OP AMP | Operational Amplifier |
| OSC | Oscillator |
| PB | Play Back |
| PCM | Pulse Coded Modulation |
| PG | Pulse Generator |
| PLA | Programmable Logic Array |
| PLL | Phase Locked Loop |
| P-P | Peak to Peak |
| PRE-AMP | Pre-Amplifier |
| P/S | Pause/Still |
| PWM | Pulse Width Modulation |
| PWR | Power |
| RAM | Random Access Memory |
| REC | Recording |
| REF | Reference |
| REG | Regulator |
| REV | Reverse |
| REW | Rewind |
| RF | Radio Frequency |
| RG | Reset Gate |
| ROM | Read Only Memory |
| RST | Reset |
| RPS | Reverse Picture Search |
| SCK | Serial Clock |
| SFG | Supply FG |
| SHD | Sample Hold Data |
| SHP | Sample Hold Precharge |
| SHP | Sharpness |
| SI | Serial Data Input |
| SO | Serial Data Output |
| SP | Standard Play |
| SN | Signal to Noise Ratio |
| STB | Strobe |
| S/W | Switch |
| SYNC | Synchronization |
| SYSCON | System Control |
| TP | Test Point |
| TR | Transistor |
| TRK | Tracking |

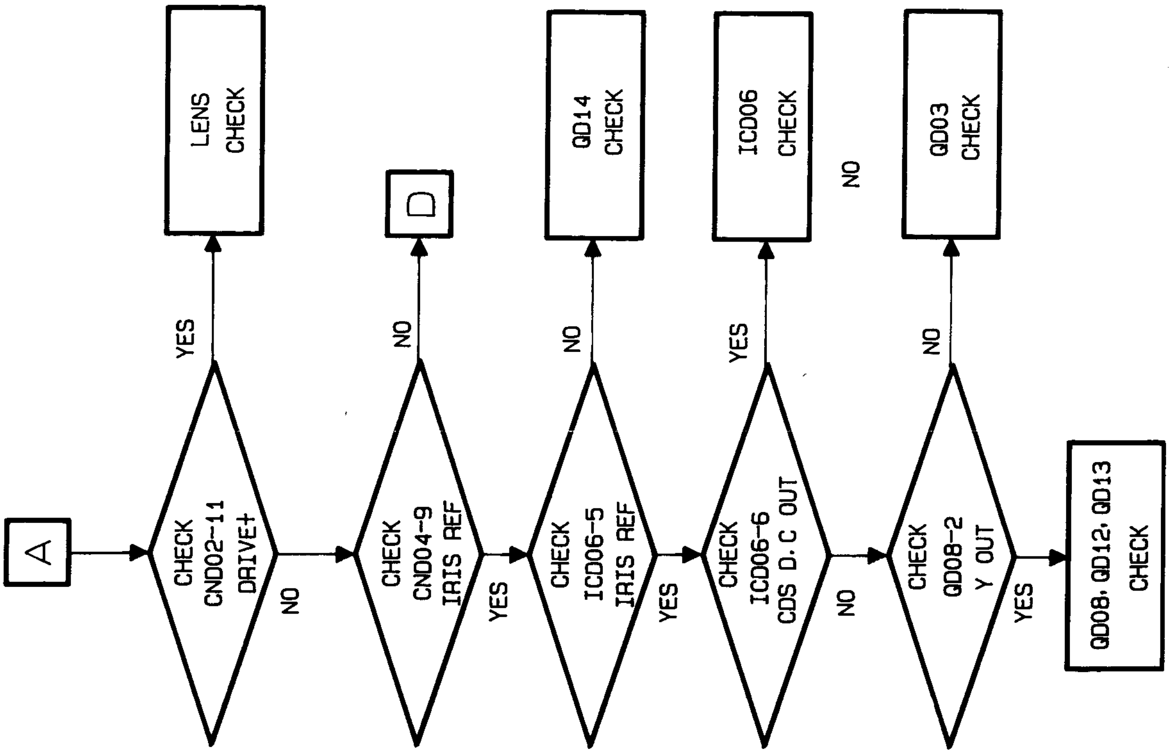
| ABBREVIATION | EXPLANATION |
|---|---|
| UL | Unloading |
| UNREG | Unregulated |
| u-COM | Microprocessor |
| VCO | Voltage Control Oscillator |
| VCR | Video Cassette Recorder |
| VR | Variable Resistor |
| V-SYNC | Vertical-sync. |
| VXO | Variable Crystal Oscillator |
| W/B | White Blance |
| X-TAL | Crystal |
| Y/C | Luminance/Chrominance |
| 3.58MHz | Color Sub Carrier |

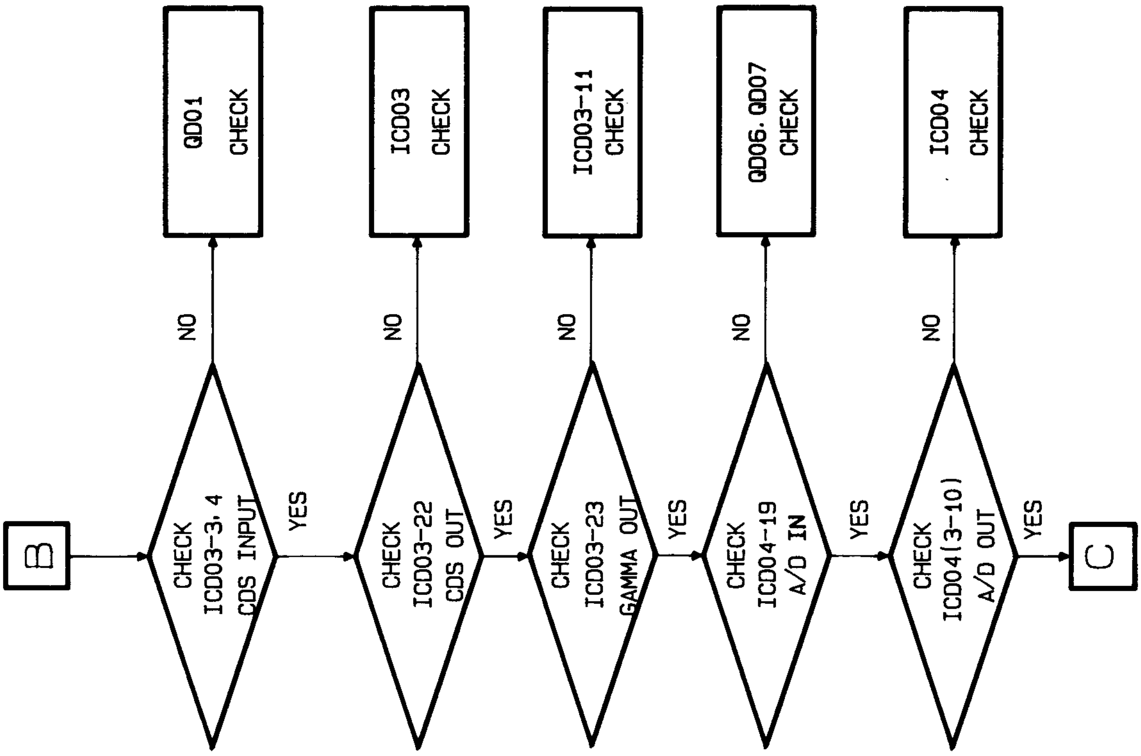
# 6. TROUBLESHOOTING

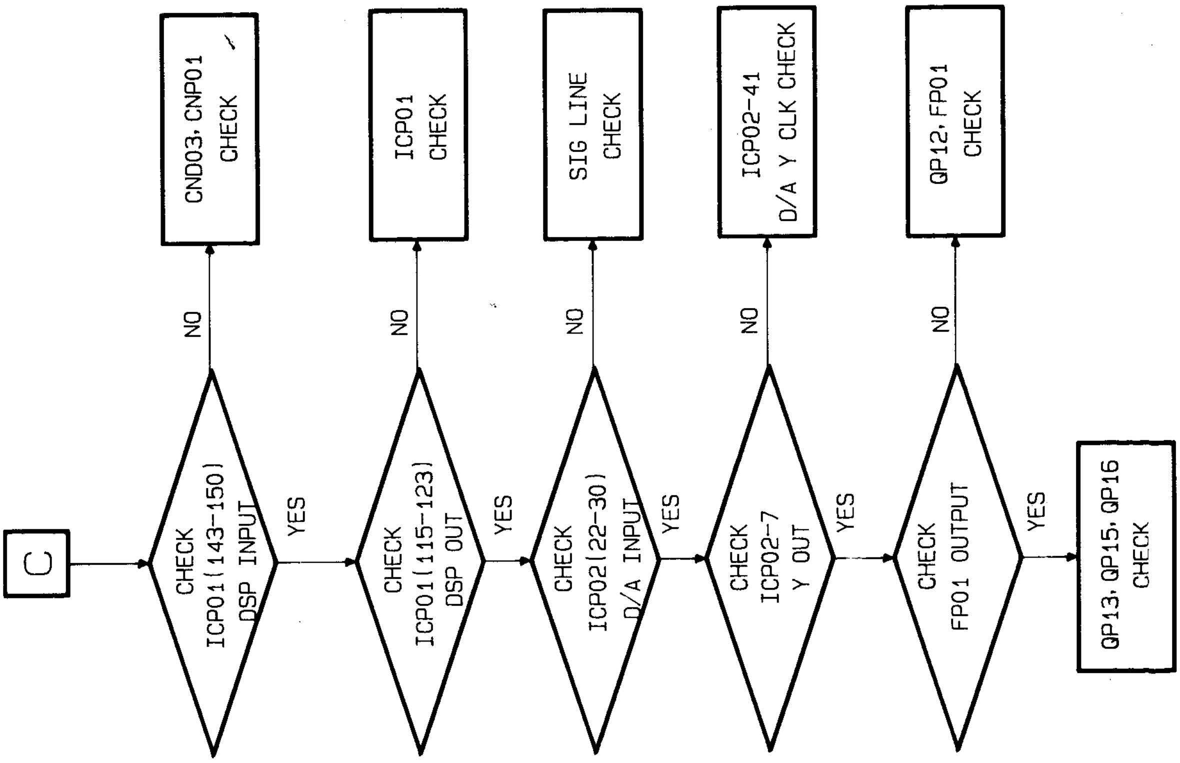
## 6-1. CAMERA SECTION

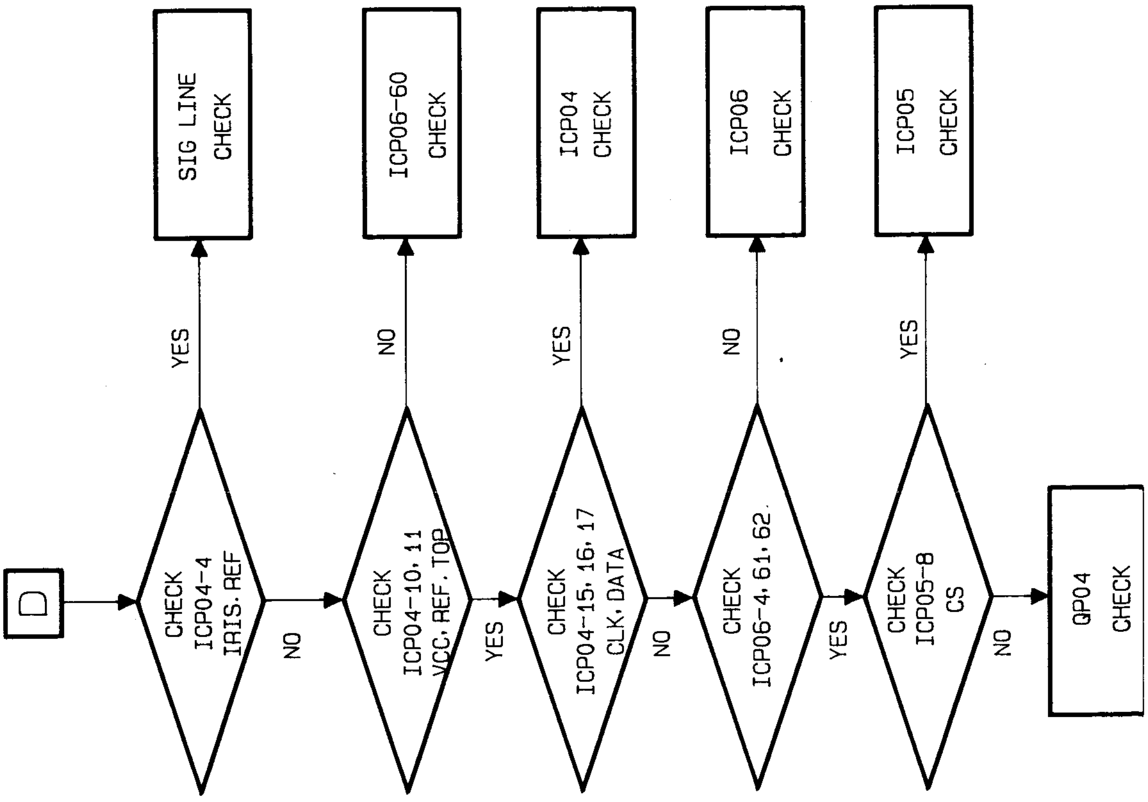

CAMERA E-E DOES NOT OPERATE
CHECK CNP03-29 CAM-OUT
YES
VTR Y/C BLOCK CHECK
NO
CHECK MODE SWITCH CAMERA
NO
PLACE THE CAMERA MODE
YES
CHECK LENS CAP OPEN
NO
OPEN THE LENS CAP
YES
CHECK IRIS OPEN
NO
A
YES
CHECK ICD01-8 CCD OUT
YES
B
NO
ICD01 CHECK

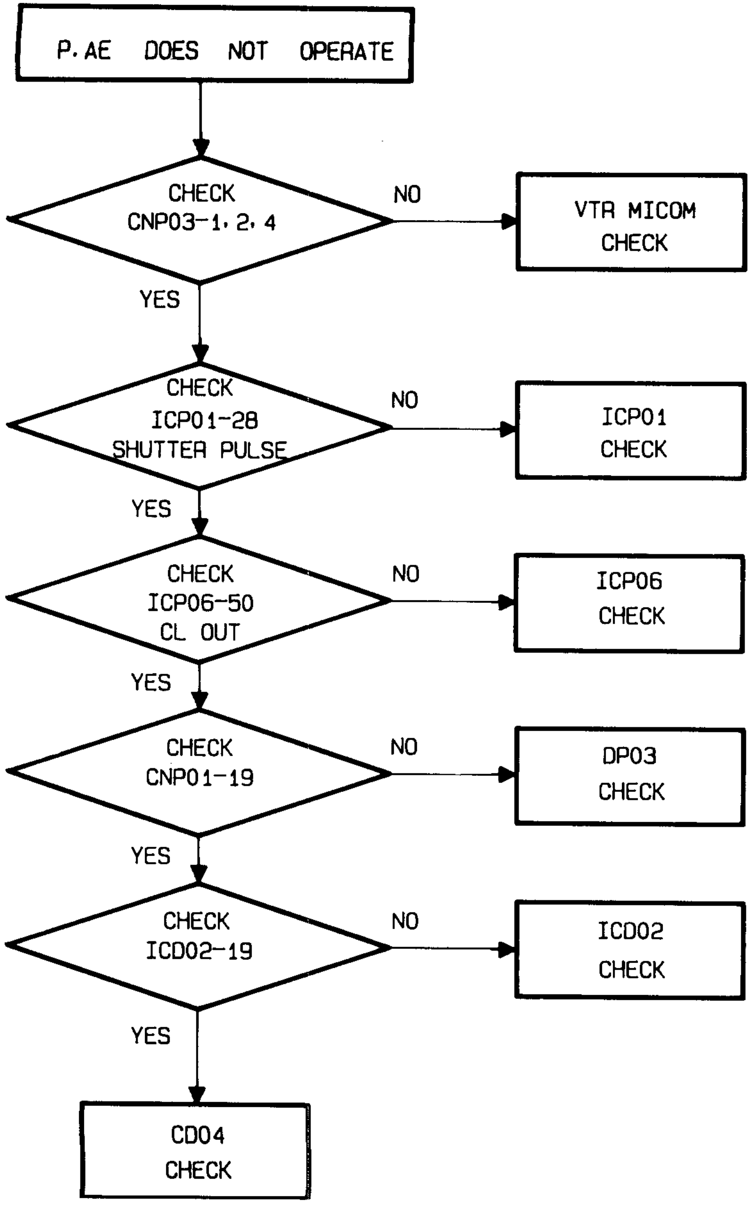

CAMERA E-E NO COLOR, ABNORMAL
CHECK ICP01(124-132) CHROMA
NO
ICP01 CHECK
YES
CHECK ICP02(31-39) CHROMA
NO
SIG.LINE CHECK
YES
CHECK ICP02-5 C OUT
NO
ICP02-40 CHECK
YES
CHECK CNP03-27 C OUT
YES
VTR Y/C CHECK
NO
CHECK QP08-EMITTER C OUT
NO
LP05 CHECK
YES
QP09, QP10 CHECK

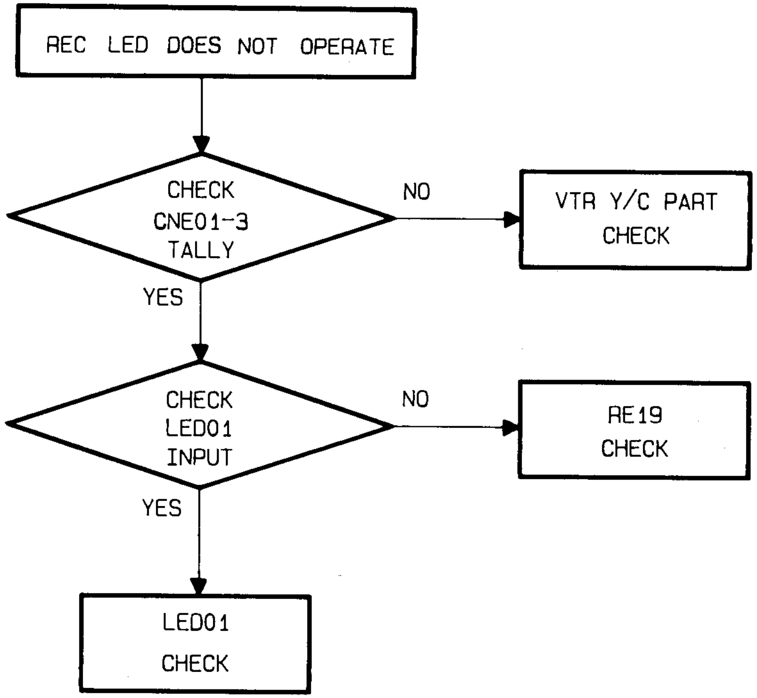

A
CHECK CND02-11 DRIVE+
YES
LENS CHECK
NO
CHECK CND04-9 IRIS REF
NO
D
YES
CHECK ICD06-5 IRIS REF
NO
QD14 CHECK
YES
CHECK ICD06-6 CDS D.C OUT
YES
ICD06 CHECK
NO
NO
CHECK QD08-2 Y OUT
NO
QD03 CHECK
YES
QD08, QD12, QD13 CHECK


B
CHECK ICD03-3, 4 CDS INPUT
NO
QD01 CHECK
YES
CHECK ICD03-22 CDS OUT
NO
ICD03 CHECK
YES
CHECK ICD03-23 GAMMA OUT
NO
ICD03-11 CHECK
YES
CHECK ICD04-19 A/D IN
NO
QD06.QD07 CHECK
YES
CHECK ICD04(3-10) A/D OUT
NO
ICD04 CHECK
YES
C

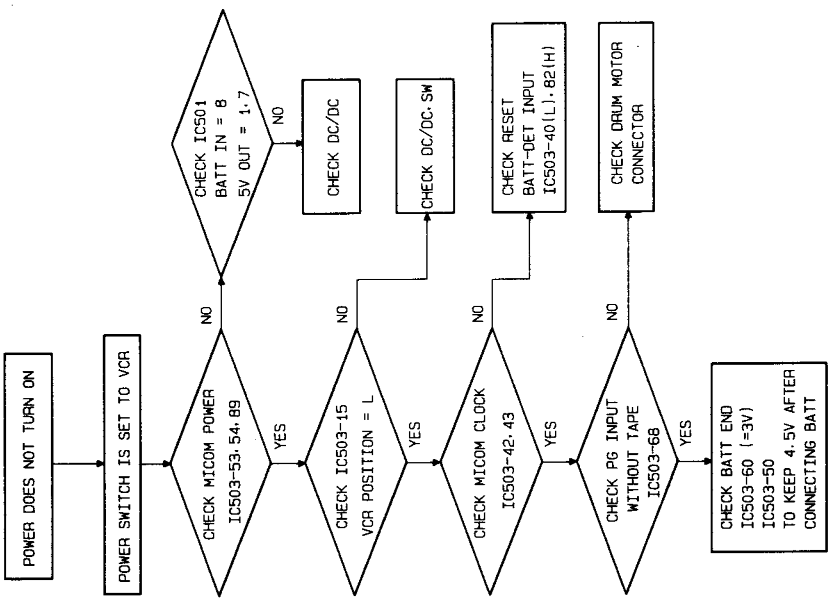

C
CHECK ICP01(143-150) DSP INPUT
NO
CND03, CNP01 CHECK
YES
CHECK ICP01(115-123) DSP OUT
NO
ICP01 CHECK
YES
CHECK ICP02(22-30) D/A INPUT
NO
SIG LINE CHECK
YES
CHECK ICP02-7 Y OUT
NO
ICP02-41 D/A Y CLK CHECK
YES
CHECK FP01 OUTPUT
NO
QP12, FP01 CHECK
YES
QP13, QP15, QP16 CHECK

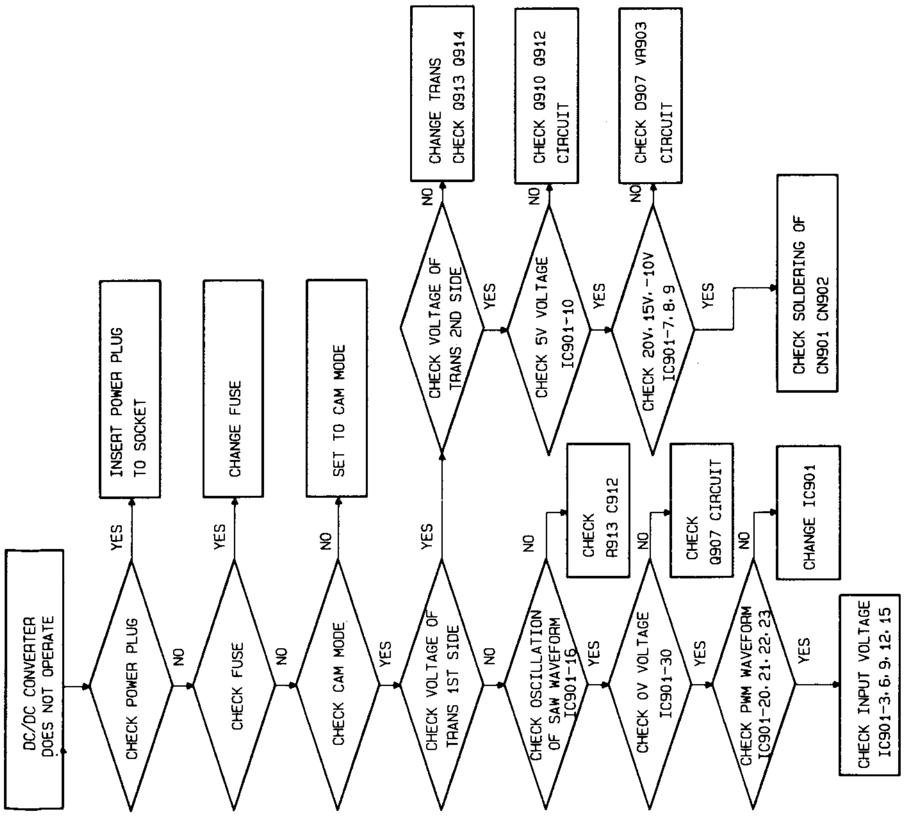

D
CHECK ICP04-4 IRIS.REF
YES
SIG LINE CHECK
NO
CHECK ICP04-10, 11 VCC, REF. TOP
NO
ICP06-60 CHECK
YES
CHECK ICP04-15, 16, 17 CLK, DATA
YES
ICP04 CHECK
NO
CHECK ICP06-4, 61, 62
NO
ICP06 CHECK
YES
CHECK ICP05-8 CS
YES
ICP05 CHECK
NO
QP04 CHECK

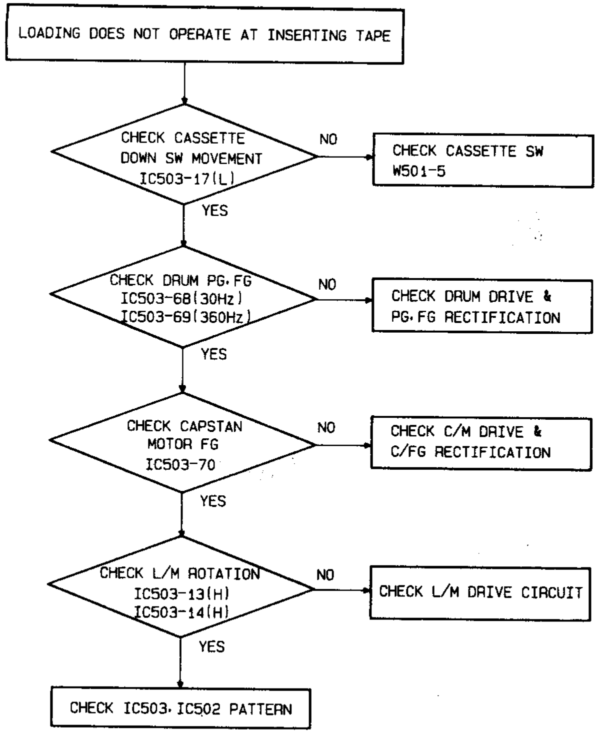

P.AE DOES NOT OPERATE
CHECK CNP03-1, 2, 4
NO
VTR MICOM CHECK
YES
CHECK ICP01-28 SHUTTER PULSE
NO
ICP01 CHECK
YES
CHECK ICP06-50 CL OUT
NO
ICP06 CHECK
YES
CHECK CNP01-19
NO
DP03 CHECK
YES
CHECK ICD02-19
NO
ICD02 CHECK
YES
CD04 CHECK

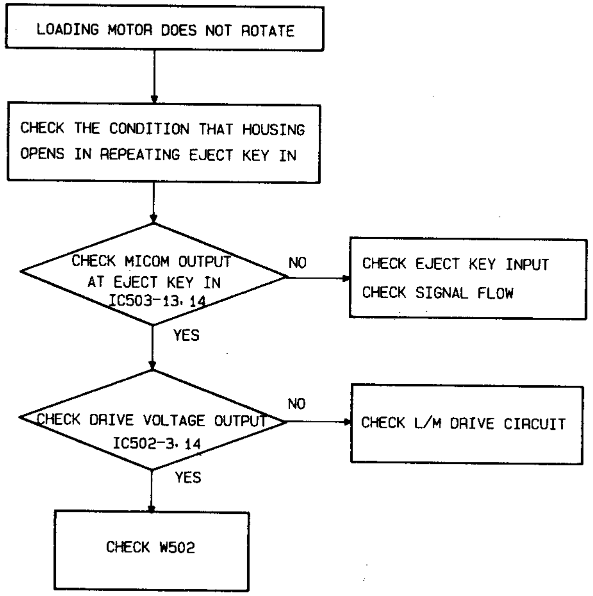

REC LED DOES NOT OPERATE
CHECK CNE01-3 TALLY
NO
VTR Y/C PART CHECK
YES
CHECK LED01 INPUT
NO
RE19 CHECK
YES
LED01 CHECK

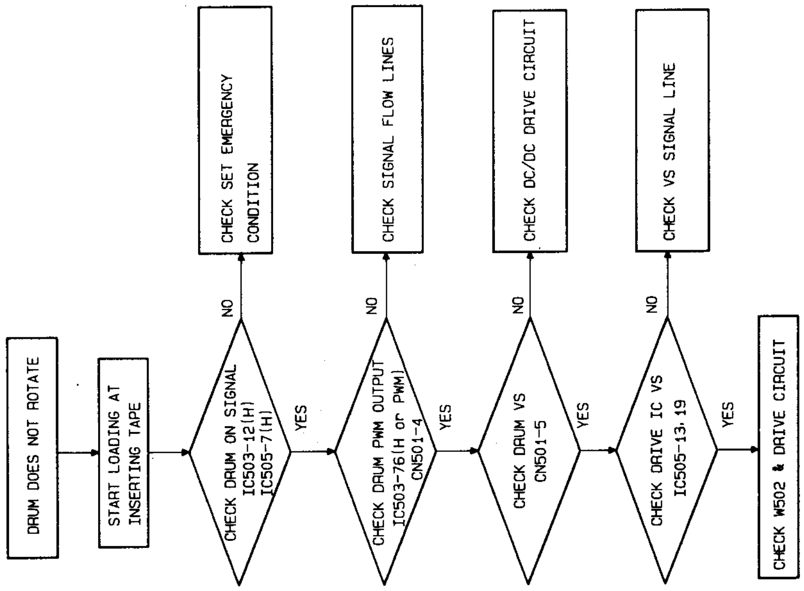
## 6-2. VCR SECTION

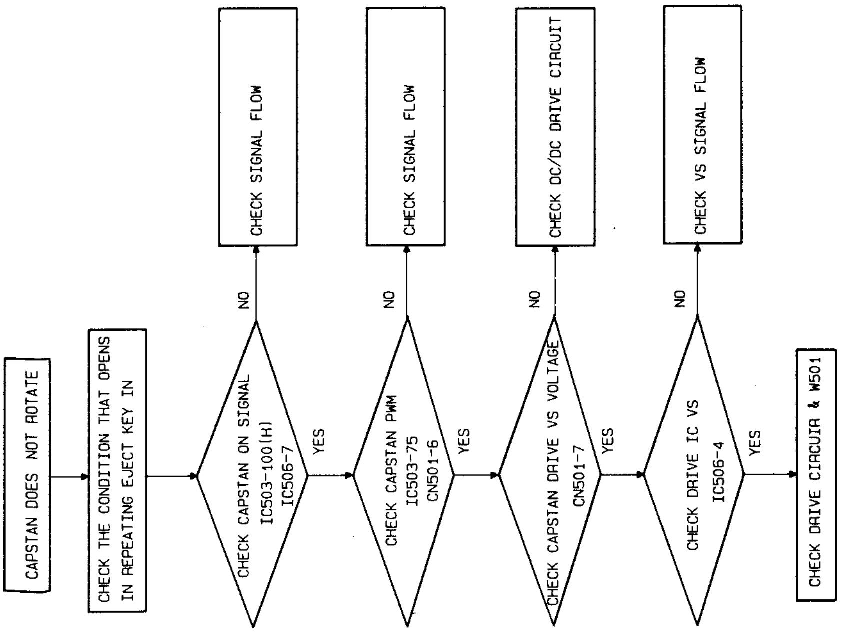

POWER DOES NOT TURN ON
POWER SWITCH IS SET TO VCR
CHECK MICOM POWER IC503-53.54.89
NO
CHECK IC501 BATT IN = 8 5V OUT = 1.7
NO
CHECK DC/DC
YES
CHECK IC503-15 VCR POSITION = L
NO
CHECK DC/DC.SW
YES
CHECK MICOM CLOCK IC503-42.43
NO
CHECK RESET BATT-DET INPUT IC503-40(L).82(H)
YES
CHECK PG INPUT WITHOUT TAPE IC503-68
NO
CHECK DRUM MOTOR CONNECTOR
YES
CHECK BATT END IC503-60 (=3V) IC503-50 TO KEEP 4.5V AFTER CONNECTING BATT

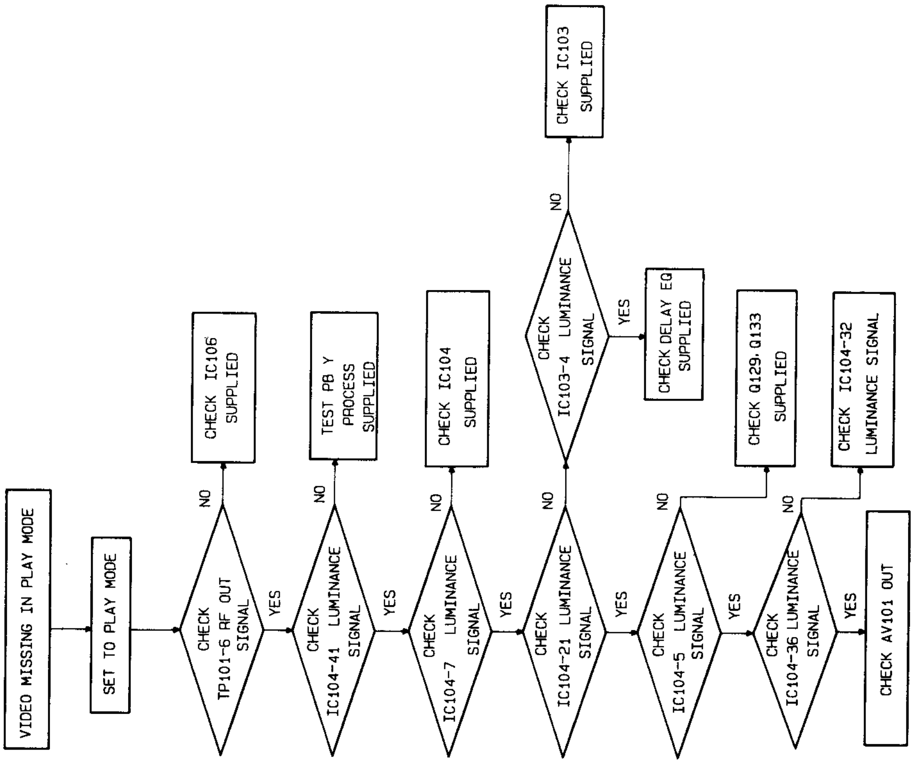

DC/DC CONVERTER DOES NOT OPERATE
CHECK POWER PLUG
YES
INSERT POWER PLUG TO SOCKET
NO
CHECK FUSE
YES
CHANGE FUSE
NO
CHECK CAM MODE
NO
SET TO CAM MODE
YES
CHECK VOLTAGE OF TRANS 1ST SIDE
YES
CHECK VOLTAGE OF TRANS 2ND SIDE
NO
CHANGE TRANS CHECK Q913 Q914
YES
CHECK 5V VOLTAGE IC901-10
NO
CHECK Q910 Q912 CIRCUIT
YES
CHECK 20V.15V.-10V IC901-7.8.9
NO
CHECK D907 VR903 CIRCUIT
YES
CHECK SOLDERING OF CN901 CN902
NO
CHECK OSCILLATION OF SAW WAVEFORM IC901-16
NO
CHECK R913 C912
YES
CHECK 0V VOLTAGE IC901-30
NO
CHECK Q907 CIRCUIT
YES
CHECK PWM WAVEFORM IC901-20.21.22.23
NO
CHANGE IC901
YES
CHECK INPUT VOLTAGE IC901-3.6.9.12.15

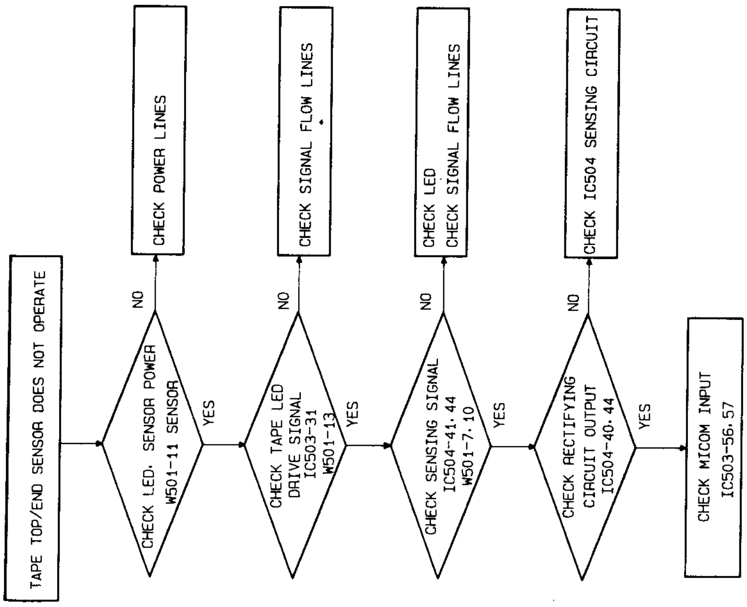

LOADING DOES NOT OPERATE AT INSERTING TAPE
CHECK CASSETTE DOWN SW MOVEMENT IC503-17(L)
NO
CHECK CASSETTE SW W501-5
YES
CHECK DRUM PG·FG IC503-68(30Hz) IC503-69(360Hz)
NO
CHECK DRUM DRIVE & PG·FG RECTIFICATION
YES
CHECK CAPSTAN MOTOR FG IC503-70
NO
CHECK C/M DRIVE & C/FG RECTIFICATION
YES
CHECK L/M ROTATION IC503-13(H) IC503-14(H)
NO
CHECK L/M DRIVE CIRCUIT
YES
CHECK IC503·IC502 PATTERN

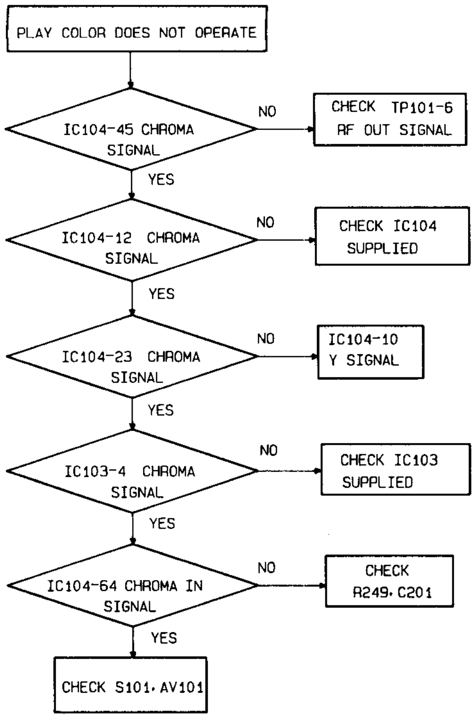

LOADING MOTOR DOES NOT ROTATE
CHECK THE CONDITION THAT HOUSING OPENS IN REPEATING EJECT KEY IN
CHECK MICOM OUTPUT AT EJECT KEY IN IC503-13·14
NO
CHECK EJECT KEY INPUT
CHECK SIGNAL FLOW
YES
CHECK DRIVE VOLTAGE OUTPUT IC502-3·14
NO
CHECK L/M DRIVE CIRCUIT
YES
CHECK W502

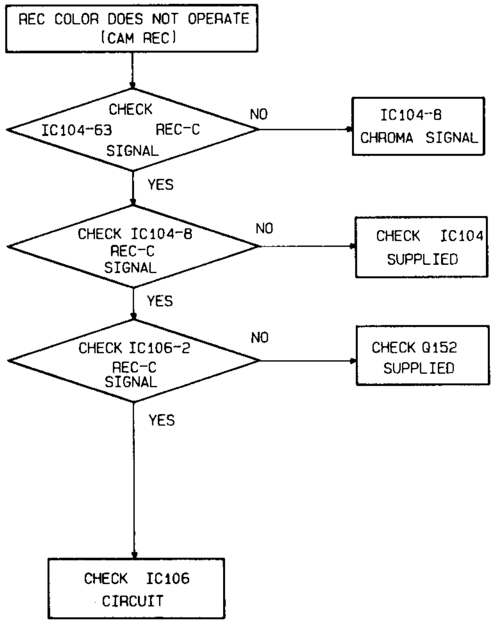

DRUM DOES NOT ROTATE
START LOADING AT INSERTING TAPE
CHECK DRUM ON SIGNAL IC503-12(H) IC505-7(H)
NO
CHECK SET EMERGENCY CONDITION
YES
CHECK DRUM PWM OUTPUT IC503-76(H or PWM) CN501-4
NO
CHECK SIGNAL FLOW LINES
YES
CHECK DRUM VS CN501-5
NO
CHECK DC/DC DRIVE CIRCUIT
YES
CHECK DRIVE IC VS IC505-13, 19
NO
CHECK VS SIGNAL LINE
YES
CHECK W502 & DRIVE CIRCUIT

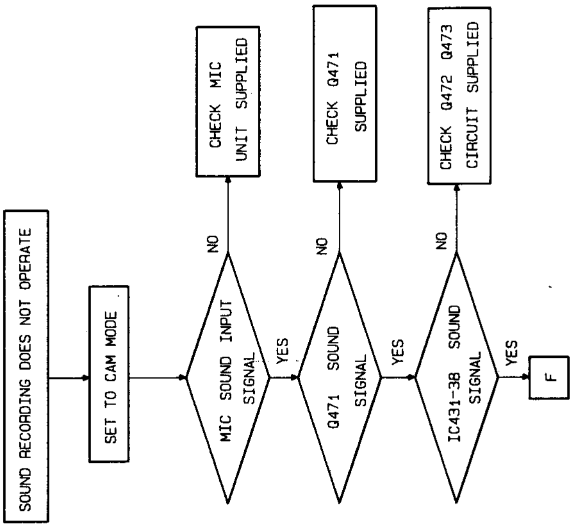

CAPSTAN DOES NOT ROTATE
CHECK THE CONDITION THAT OPENS IN REPEATING EJECT KEY IN
CHECK CAPSTAN ON SIGNAL IC503-100(H) IC506-7
NO
CHECK SIGNAL FLOW
YES
CHECK CAPSTAN PWM IC503-75 CN501-6
NO
CHECK SIGNAL FLOW
YES
CHECK CAPSTAN DRIVE VS VOLTAGE CN501-7
NO
CHECK DC/DC DRIVE CIRCUIT
YES
CHECK DRIVE IC VS IC506-4
NO
CHECK VS SIGNAL FLOW
YES
CHECK DRIVE CIRCUIR & W501

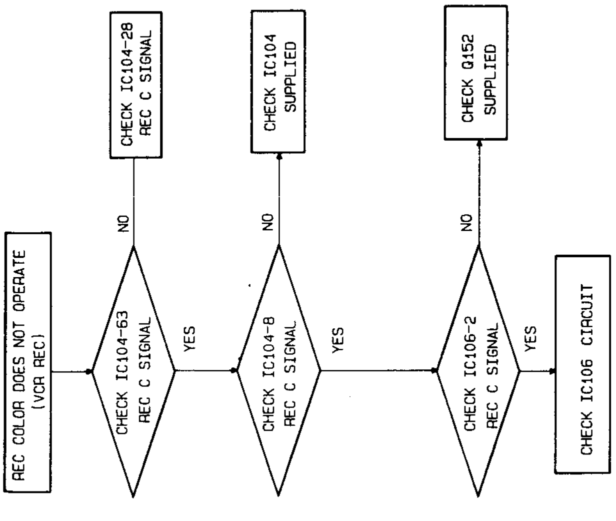

VIDEO MISSING IN PLAY MODE
SET TO PLAY MODE
CHECK TP101-6 RF OUT SIGNAL
NO
CHECK IC106 SUPPLIED
YES
CHECK IC104-41 LUMINANCE SIGNAL
NO
TEST PB Y PROCESS SUPPLIED
YES
CHECK IC104-7 LUMINANCE SIGNAL
NO
CHECK IC104 SUPPLIED
YES
CHECK IC104-21 LUMINANCE SIGNAL
NO
CHECK IC103-4 LUMINANCE SIGNAL
NO
CHECK IC103 SUPPLIED
YES
CHECK DELAY EQ SUPPLIED
YES
CHECK IC104-5 LUMINANCE SIGNAL
NO
CHECK Q129, Q133 SUPPLIED
YES
CHECK IC104-36 LUMINANCE SIGNAL
NO
CHECK IC104-32 LUMINANCE SIGNAL
YES
CHECK AV101 OUT

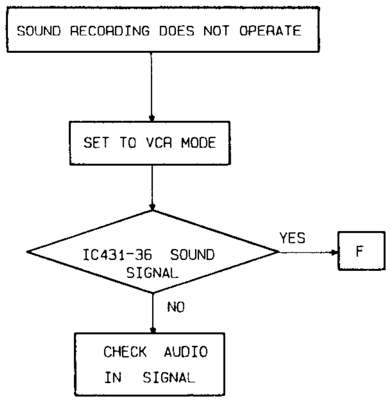

TAPE TOP/END SENSOR DOES NOT OPERATE
CHECK LED, SENSOR POWER W501-11 SENSOR
NO
CHECK POWER LINES
YES
CHECK TAPE LED DRIVE SIGNAL IC503-31 W501-13
NO
CHECK SIGNAL FLOW LINES
YES
CHECK SENSING SIGNAL IC504-41, 44 W501-7, 10
NO
CHECK LED
CHECK SIGNAL FLOW LINES
YES
CHECK RECTIFYING CIRCUIT OUTPUT IC504-40, 44
NO
CHECK IC504 SENSING CIRCUIT
YES
CHECK MICOM INPUT IC503-56, 57

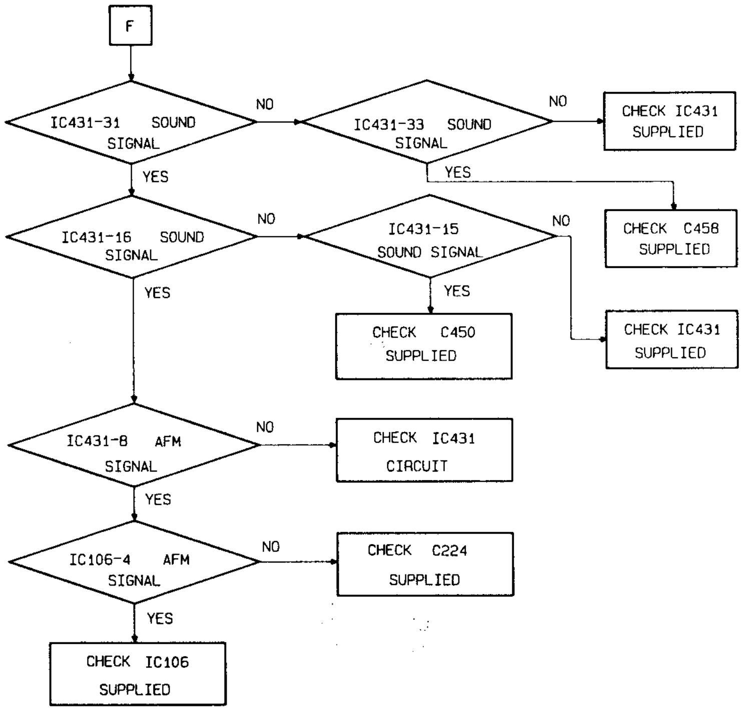

PLAY COLOR DOES NOT OPERATE
IC104-45 CHROMA SIGNAL
NO
CHECK TP101-6 RF OUT SIGNAL
YES
IC104-12 CHROMA SIGNAL
NO
CHECK IC104 SUPPLIED
YES
IC104-23 CHROMA SIGNAL
NO
IC104-10 Y SIGNAL
YES
IC103-4 CHROMA SIGNAL
NO
CHECK IC103 SUPPLIED
YES
IC104-64 CHROMA IN SIGNAL
NO
CHECK R249·C201
YES
CHECK S101·AV101

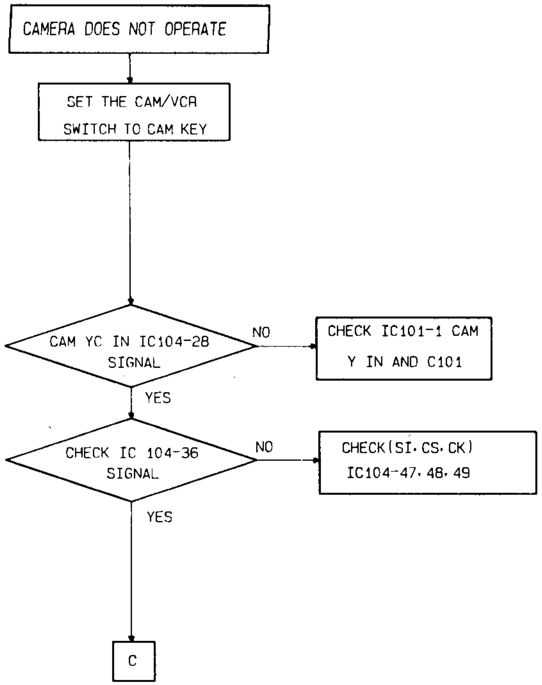

REC COLOR DOES NOT OPERATE (CAM REC)
CHECK IC104-63 REC-C SIGNAL
NO
IC104-8 CHROMA SIGNAL
YES
CHECK IC104-8 REC-C SIGNAL
NO
CHECK IC104 SUPPLIED
YES
CHECK IC106-2 REC-C SIGNAL
NO
CHECK Q152 SUPPLIED
YES
CHECK IC106 CIRCUIT

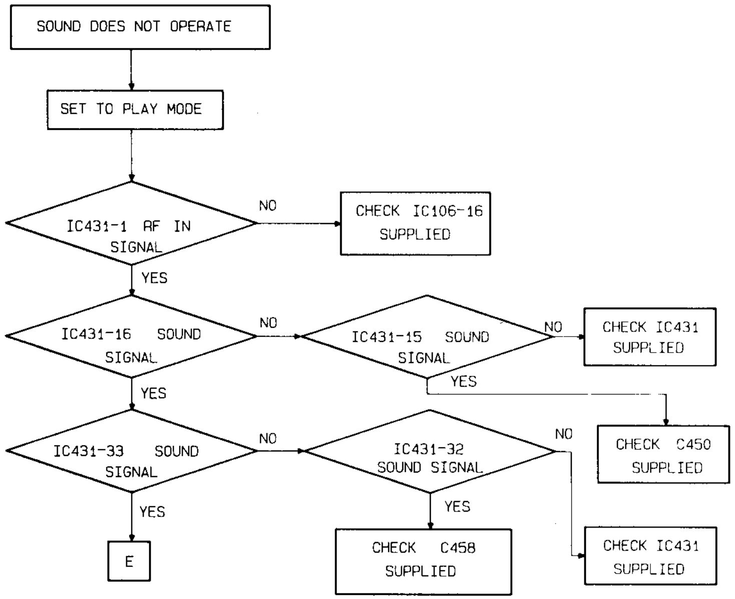

SOUND RECORDING DOES NOT OPERATE
SET TO CAM MODE
MIC SOUND INPUT SIGNAL
NO
CHECK MIC UNIT SUPPLIED
YES
Q471 SOUND SIGNAL
NO
CHECK Q471 SUPPLIED
YES
IC431-38 SOUND SIGNAL
NO
CHECK Q472 Q473 CIRCUIT SUPPLIED
YES
F

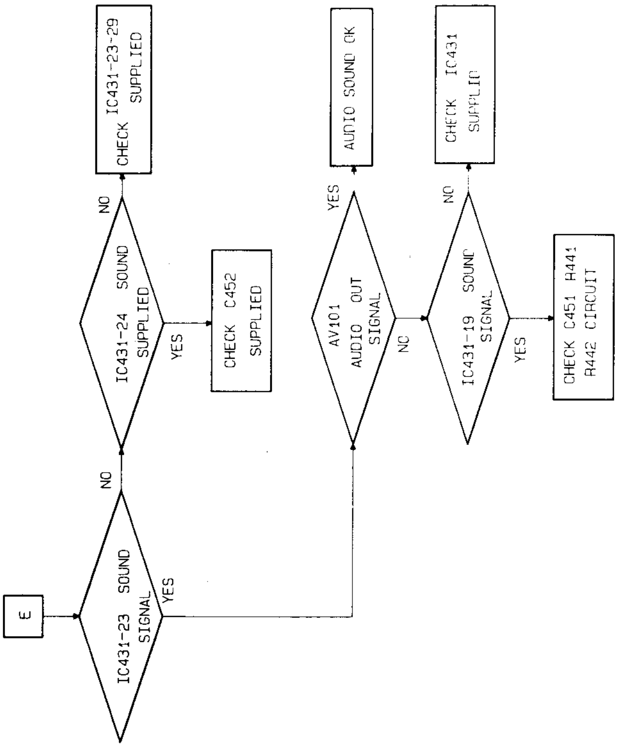

REC COLOR DOES NOT OPERATE (VCR REC)
CHECK IC104-63 REC C SIGNAL
NO
CHECK IC104-28 REC C SIGNAL
YES
CHECK IC104-8 REC C SIGNAL
NO
CHECK IC104 SUPPLIED
YES
CHECK IC106-2 REC C SIGNAL
NO
CHECK Q152 SUPPLIED
YES
CHECK IC106 CIRCUIT

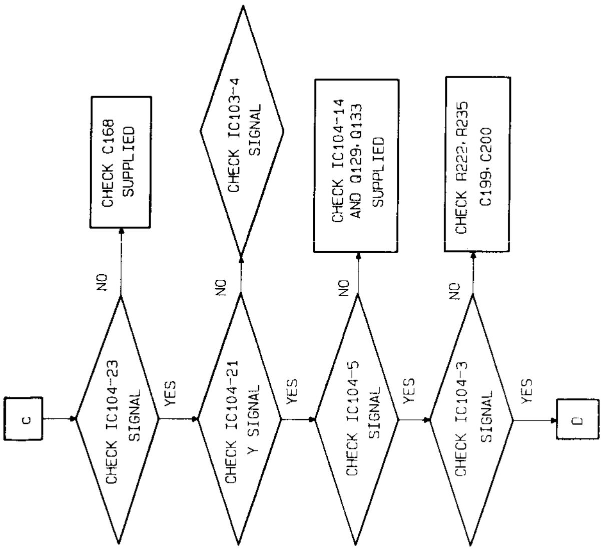

SOUND RECORDING DOES NOT OPERATE
SET TO VCR MODE
IC431-36 SOUND SIGNAL
YES
F
NO
CHECK AUDIO IN SIGNAL

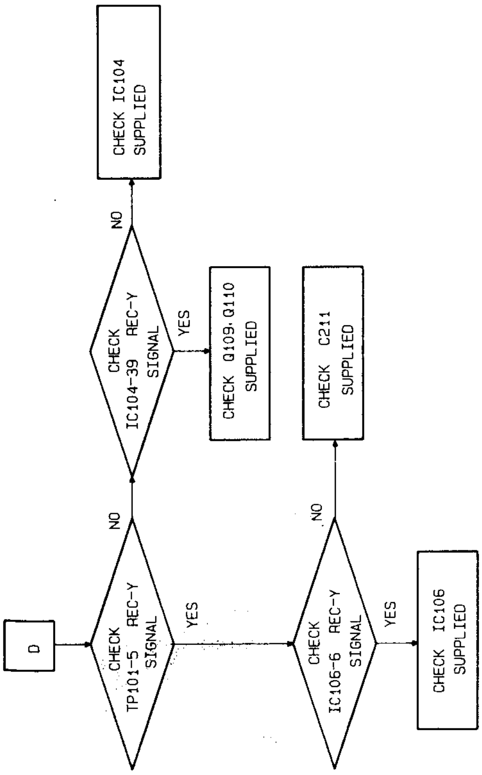

F
IC431-31 SOUND SIGNAL
NO
IC431-33 SOUND SIGNAL
NO
CHECK IC431 SUPPLIED
YES
CHECK C458 SUPPLIED
YES
IC431-16 SOUND SIGNAL
NO
IC431-15 SOUND SIGNAL
NO
CHECK IC431 SUPPLIED
YES
CHECK C450 SUPPLIED
YES
IC431-8 AFM SIGNAL
NO
CHECK IC431 CIRCUIT
YES
IC106-4 AFM SIGNAL
NO
CHECK C224 SUPPLIED
YES
CHECK IC106 SUPPLIED


CAMERA DOES NOT OPERATE
SET THE CAM/VCR SWITCH TO CAM KEY
CAM YC IN IC104-28 SIGNAL
NO
CHECK IC101-1 CAM Y IN AND C101
YES
CHECK IC 104-36 SIGNAL
NO
CHECK(SI, CS, CK) IC104-47, 48, 49
YES
C


SOUND DOES NOT OPERATE
SET TO PLAY MODE
IC431-1 RF IN SIGNAL
NO
CHECK IC106-16 SUPPLIED
YES
IC431-16 SOUND SIGNAL
NO
IC431-15 SOUND SIGNAL
NO
CHECK IC431 SUPPLIED
YES
CHECK C450 SUPPLIED
YES
IC431-33 SOUND SIGNAL
NO
IC431-32 SOUND SIGNAL
NO
CHECK IC431 SUPPLIED
YES
CHECK C458 SUPPLIED
YES
E


E
IC431-23 SOUND SIGNAL
YES
NO
IC431-24 SOUND SUPPLIED
YES
CHECK C452 SUPPLIED
NO
CHECK IC431-23-29 SUPPLIED
AV101 AUDIO OUT SIGNAL
YES
AUDIO SOUND OK
NO
IC431-19 SOUND SIGNAL
YES
CHECK C451 R441 R442 CIRCUIT
NO
CHECK IC431 SUPPLIED


C
CHECK IC104-23 SIGNAL
YES
NO
CHECK C168 SUPPLIED
CHECK IC104-21 Y SIGNAL
YES
NO
CHECK IC103-4 SIGNAL
CHECK IC104-5 SIGNAL
YES
NO
CHECK IC104-14 AND Q129, Q133 SUPPLIED
CHECK IC104-3 SIGNAL
YES
NO
CHECK R222, R235 C199, C200
D


D
CHECK TP101-5 REC-Y SIGNAL
NO
YES
CHECK IC104-39 REC-Y SIGNAL
NO
CHECK IC104 SUPPLIED
YES
CHECK Q109, Q110 SUPPLIED
CHECK IC106-6 REC-Y SIGNAL
NO
CHECK C211 SUPPLIED
YES
CHECK IC106 SUPPLIED

# 7. CHIP REPLACEMENT

## 7-1. PRECAUTION FOR THE CHIP REPLACEMENT

1. Do not touch the part body directly with the soldering iron.
   ICs, especially TSOP, are easily damaged by heat.
2. Use care regarding soldering iron tip and avoid rapidly heating parts. Some parts can be damaged by sudden heating. Preheat the part at about 100℃ for several minutes before installing it.
3. Use soldering tip temperature of about 240℃ or larger parts, use a slightly higher temperature (about 280℃).
4. The thin (0.3mm) solder for miniature patrs does no contain adequate flux. Supplementary flux is thus needed in most cases.

☞ **A/V systems are manufactured using flux which can be cleaned by water in the factory.**
**When you replace the part or troubleshooting, use proper flux and solder which can be cleaned by water. Soldering area will corrode, if proper flux and solder are not used in replace. And it may cause a fatal error to the system.**

5. Use care not to damage the circuit pattern, especially when removing.
6. Because of the many pins, cleanliness of the pattern is extremely important after removing the IC.
7. Use care to avoid solder bridges. Remove any that occurs.
8. Position the part carefully. This will also affect the soldering operation. Be very precise in positioning the IC. Soldering opposite pins first holds the IC in place and makes soldering the other pins easier.
9. Do not reuse removed parts.
10. Check for solder joints, especially miniature parts with small lead.
11. A defective trimming resistor cannot be adjusted externally Replace with an ordinary variable resistor.
12. It is important to inspect the work with a magnifier. Check after installing (cold solder joints, etc).

## 7-2. TOOLS FOR THE CHIP REPLACEMENT

The tools for the chip replacement are as follows.

1. Thin tip type soldering iron
2. Small flat-blade tip type soldering iron
3. Special desoldering tip iron
4. Airblower unit
5. Flat Package Pick-up
6. Flux can be cleaned by water
7. 0.3mm thin solder can be cleaned by water
8. Desoldering wire
9. Tweezers

## 7-3. CHIP RESISTORS AND CHIP CAPACITORS

### 7-3-1. Type of Parts

The type of chip resistors and chip capacitors are as follows.

1. Thick Film Chip Resistors
2. Carbon Film Chip Resistors
3. Metal Film Chip Resistors
4. Chip Ceramic Capacitors
5. Chip Trimming Resistors

### 7-3-2. Removing the Part

Using two soldering irons ;

1. Use thin tip soldering irons.
2. Use soldering tip temperature of about 280℃.
3. Simultaneously heat both ends of the part.
4. While heating, grasp the part with the tips of the soldering irons and remove it.
5. Use desoldering wire to completely remove the old solder from the part location of the board.
6. A clean pattern for installing the new part is very important.

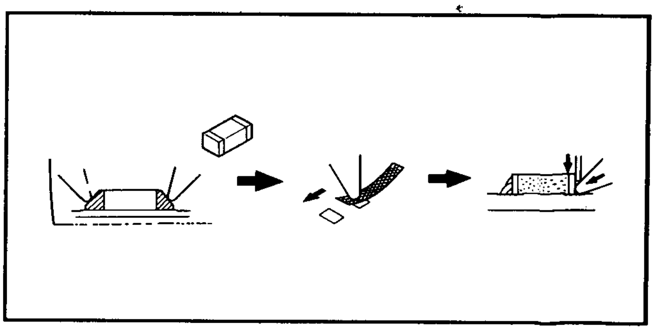


Fig. 1

### 7-3-3. Installing the Part

1. Clean the area where the new part is to be mounted.
2. Apply flux.
3. Set part correctly into position, prevent it from shifting.
4. Bring the soldering iron tip close to the part contact without actually touching it. Melt thin (0.3mm) solder between the tip and part so that it flows into the part contact.
5. Check work quality with a magnifier.

## 7-4. CHIP TANTALUM CAPACITORS AND CHIP FILTERS

### 7-4-1. Type of Parts

The type of chip tantalum capacitors and chip filters are as follows.

1. Chip Inductors
2. Chip Tantalum Capacitors
3. Chip Tantalum Electrolytic Capacitors
4. Chip Aluminum Electrolytic Capacitors
5. Chip Transformers
6. Chip Filters

### 7-4-2. Removing the Part

1. Using special desoldering iron ;

1) Select soldering tip according to part size.
2) When the solder melts, remove the part
3) Bring the tip into contact with the soldered points.
4) Remove the old solder with desoldering wire.

2. Using two soldering irons ;

1) Use small flat-blade tips.
2) Heat both ends of the part simultaneously.
3) When the solder melts, grasp and remove the part with the soldering iron tips.
4) Remove the old solder with desoldering wire.

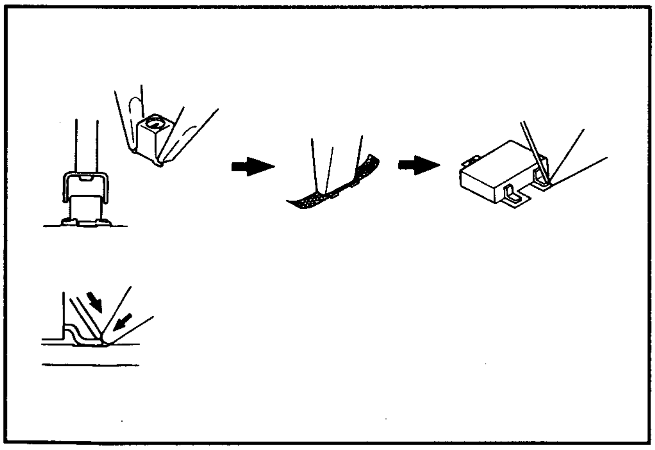


Fig. 2

### 7-4-3. Installing the Part

1. Clean the area where the new part is to be mounted.
2. Apply flux.
3. Set part correctly into position, prevent it from shifting.
4. Use sharp soldering iron tip. Bring close to the part contact without actually touching it. Melt thin solder between the tip and part so that it flows into the part contact.
5. Check work quality with a magnifier.

## 7-5. CHIP VRs, CHIP TRIMMER CAPACITORS, DIODES AND TR.

### 7-5-1. Type of Parts

The type of the part is as follows.

1) Chip VRs
2) Chip Trimmer Capacitors
3) Diode
4) Transistors

### 7-5-2. Removing the Part

Using two soldering irons ;

1. Use small flat-blade tips.
2. Heat the leads of the part simultaneously.
3. When the solder melts, grasp and remove the part with the soldering iron tips.
4. Remove the old solder with desoldering wire.

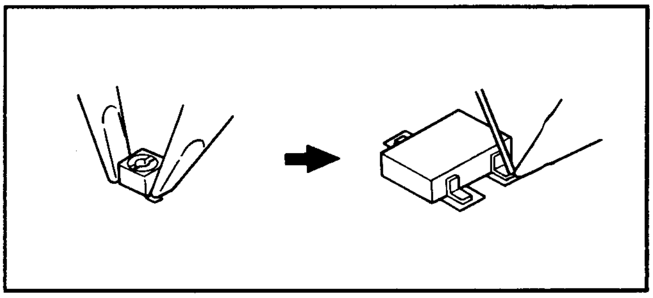


Fig. 3

### 7-5-3. Installing the Part

1. Clean the area where the new part is to be mounted.
2. Apply flux.
3. Set part correctly into position, prevent it from shifting.
4. Use sharp soldering iron tip. Bring close to the part contact without actually touching it. Melt thin solder between the tip and part so that it flows into the part contact.

# 7-6. CHIP ICs

## 7-6-1. Type of Chip ICs

The type of the Chip ICs are as follows ;

1. SOP(Small Outline Package) IC
2. SSOP(Shrink Small Outline Package) IC
3. VSOP(Very Small Outline Package) IC
4. QFP(Quad Flat Package) IC
5. VQFP(Very Quad Flat Package) IC
6. PLCC(Plastic Leaded Chip Carrier) IC
7. TSOP(Thin Small Outline Package) IC

## 7-6-2. Removing the Part

1. Using special desoldering iron ;

1)Select the tip accoding to the size and shape of the IC.
2) "Tin"the tip with a small amount of the IC leads.
3) Set the tip squarely over the IC leads.
4) When the solder melts, carefully twist the iron.
5) Raise and remove the IC.

2. Using shaped airblower unit ;

1) Select the correct nozzle.
2) Select the temperature and airblow.
   (suggested : tem perature : 7, airblow : 4)
3) Engage the IC removing tool
4) Use the airblow to preheat the IC for about 5 seconds, then heat with the nozzle until the IC remover lifts the part from the board.

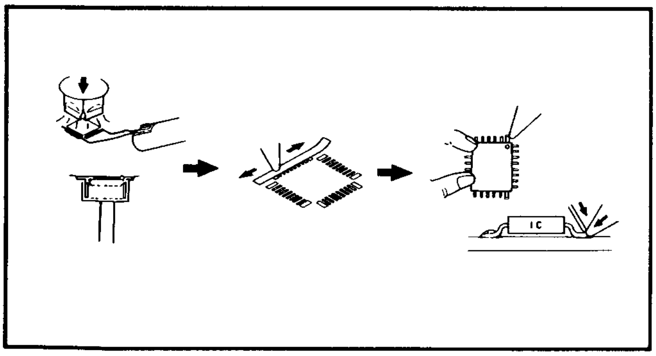


Fig. 4

## 7-6-3. Installing the Part

1. Use desoldering wire to remove the previous solder.
2. Clean the location.
3. Apply flux.
4. Position the IC and solder two pins at opposite sides.
5. Use a sharp tipped soldering iron and carefully solder each pin. (After gaining experience, a thicker tip can be used for better work efficiency).
6. Remove any solder bridges with desoldering wire.
7. Inspect the work with a magnifier.

## 7-7. HOW TO READ LEADLESS (CHIP) COMPONENT VALUE

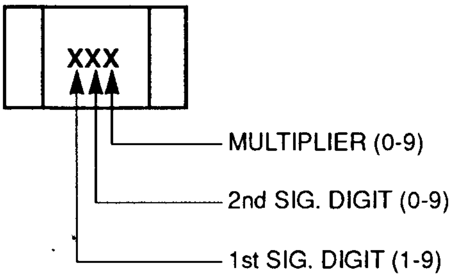
### 7-7-1. Check the followings before S.M.D Troubleshooting

- Cracked or Chipped Component Body
- Cracked or Separated Solder Joints
- Peeling end Terminations or Fractured Leads
- Rejection of Solder from Copper Pads or Component
- Foreign Matter on Copper Pads
- Solder Bridges

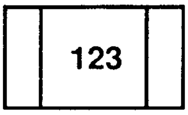
### 7-7-2. S.M.D (Surface Mounted Devices) Identification

**1. Chip Resistor Identification**

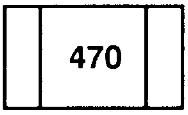
1) Standard Chip Resistor Code


XXX
MULTIPLIER (0-9)
2nd SIG. DIGIT (0-9)
1st SIG. DIGIT (1-9)

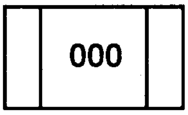
**Examples**



= 12 x 103 (1000) = 12000 Ω
= 12K Ω



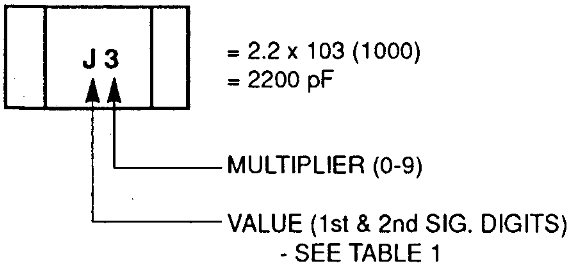
= 47 x 100 (1) = 47 Ω



= CHIP JUMPER = 0 Ω

**2. Chip Capacitor Indentification**

1) Standard Two Place Code


J 3
MULTIPLIER (0-9)
VALUE (1st & 2nd SIG. DIGITS)
- SEE TABLE 1

= 2.2 x 103 (1000)
= 2200 pF

**Examples**

S2 = 4.7 x 100 = 470 pF

b0 = 3.5 x 1.0 = 3.5 pF

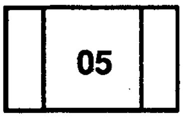
**Note :** Ceramic chip capacitor is no marking.

| VALUE (33 VALUE SYMBOLS) - UPPER AND LOWER CASE LETTERS | | | | | MULTIPLIER |
|---|---|---|---|---|---|
| A — 1.0 | H — 2.0 | b — 3.5 | f — 5.0 | X — 7.5 | 0= x 1.0 |
| B — 1.1 | J — 2.2 | p — 3.6 | T — 5.1 | t — 8.0 | 1= x 10 |
| C — 1.2 | K — 2.4 | Q — 3.9 | U — 5.6 | Y — 8.2 | 2= x 100 |
| D — 1.3 | a — 2.5 | d — 4.0 | m — 6.0 | y — 9.0 | 3= x 1000 |
| E — 1.5 | L — 2.7 | R — 4.3 | V — 6.2 | Z — 9.1 | 4= x 10000 |
| F — 1.6 | M — 3.0 | e — 4.5 | W — 6.8 | | 5= x 100000 etc. |
| G — 1.8 | N — 3.3 | S — 4.7 | n — 7.0 | | |

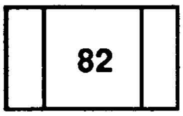
--- TABLE 1 ---

2) Alternate Two Place Code

- Values below 100 pF - Value Read Directly

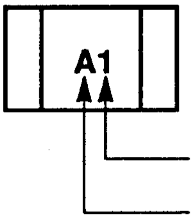


= 5 pF



= 82 pF

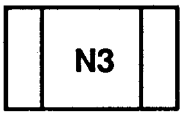
- Values 100 pF and above - Letter / Number Code



= 10 x 10
= 100 pF

MULTIPLIER (1-9)

VALUE (1st & 2nd SIG. DIGITS)
- SEE TABLE 2

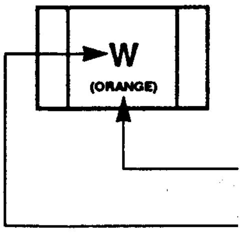


= 33 x 1000
= 33000 pF
= 0.33 uF

| VALUE (24 VALUE SYMBOLS) - UPPER CASE LETTERS ONLY | | | | | MULTIPLIER |
|---|---|---|---|---|---|
| A — 10 | F — 16 | L — 27 | R — 43 | W — 68 | 1 = x 10 |
| B — 11 | G — 18 | M — 30 | S — 47 | X — 75 | 2 = x 100 |
| C — 12 | H — 20 | N — 33 | T — 51 | Y — 82 | 3 = x 1000 |
| D — 13 | J — 22 | P — 36 | U — 56 | Z — 91 | 4 = x 10000 |
| E — 15 | K — 24 | Q — 39 | V — 62 | | 5 = x 100000 etc. |

--- **TABLE 2** ---

3) Standard Single Place Code



= 4.7 x 1.0=4.7 pF

COLOR-MULTIPLIER

SYMBOL-VALUE
- SEE TABLE 3

**Examples**

R (Green) = 3.3 x 100 = 330 pF

7 (Blue) = 8.2 x 1000 = 8200 pF

| VALUE (24 VALUE SYMBOLS) - UPPER CASE LETTERS & NUMERALS | | | | | MULTIPLIER |
|---|---|---|---|---|---|
| A — 1.0 | H — 1.6 | N — 2.7 | V — 4.3 | 3 — 6.8 | ORANGE = x 1.0 |
| B — 1.1 | I — 1.8 | O — 3.0 | W — 4.7 | 4 — 7.5 | BLACK = x 10 |
| C — 1.2 | J — 2.0 | R — 3.3 | X — 5.1 | 7 — 8.2 | GREEN = x 100 |
| D — 1.3 | K — 2.2 | S — 3.6 | Y — 5.6 | 9 — 9.1 | BLUE = x 1000 |
| E — 1.5 | L — 2.4 | T — 3.9 | Z — 6.2 | | VIOLET = x 10000 |
| | | | | | RED = x 100000 |

--- **TABLE 3** ---

# 8. ELECTRICAL REPLACEMENT PARTS LIST

| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| **159** | **69063-214-186** | **ASSY DC/DC BOARD;S8C-PAL VP-U12 VTR(DC/DC)** | |
| C905 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C906 | 61454-154-682 | C-CERAMIC CHIP;C1608 B1H 682KT | |
| C907 | 61454-157-473 | C-CERAMIC CHIP;C1608 JF1C 473ZT | |
| C908 | 61454-154-472 | C-CERAMIC CHIP;C1608 JB1H 472KT | |
| C909 | 61454-154-472 | C-CERAMIC CHIP;C1608 JB1H 472KT | |
| C910 | 61454-158-473 | C-CERAMIC CHIP;C1608 JB1C 473KT | |
| C911 | 61454-155-223 | C-CERAMIC CHIP;C1608 JB1C 223KT | |
| C912 | 61454-153-221 | C-CERAMIC CHIP;C1608 CH1H221JT | |
| C913 | 61454-154-222 | C-CERAMIC CHIP;1608 B1H 222KT | |
| C914 | 61454-153-221 | C-CERAMIC CHIP;C1608 CH1H221JT | |
| C915 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C917 | B1100-0674 | C-CERAMIC,CHIP;CK 73 Y5V 16V T 685-Z C3225 | |
| C918 | 61454-244-471 | C-ELEC.CHIP;ECE-V1CA470P | |
| C919 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C920 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C921 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C922 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C923 | A1100-0675 | C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012 | |
| C924 | 61454-153-220 | C-CERAMIC CHIP;C1608 CH1H220JT | |
| C925 | B1100-0674 | C-CERAMIC,CHIP;CK 73 Y5V 16V T 685-Z C3225 | |
| C926 | B1100-0752 | C-CERAMIC,CHIP;CK 73 Y5V 25V T 105-Z C3216 C3216Y5 | |
| C927 | B1100-0752 | C-CERAMIC,CHIP;CK 73 Y5V 25V T 105-Z C3216 C3216Y5 | |
| C928 | B1100-0752 | C-CERAMIC,CHIP;CK 73 Y5V 25V T 105-Z C3216 C3216Y5 | |
| C929 | B1100-0752 | C-CERAMIC,CHIP;CK 73 Y5V 25V T 105-Z C3216 C3216Y5 | |
| C930 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C931 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C940 | B1100-0674 | C-CERAMIC,CHIP;CK 73 Y5V 16V T 685-Z C3225 | |
| C941 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C950 | 61454-244-471 | C-ELEC.CHIP;ECE-V1CA470P | |
| C951 | A1100-0675 | C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012 | |
| C952 | 61454-247-105 | C-ELECTROLYTIC;OS COND 10SC 10M.K | |
| C953 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C954 | 61454-244-471 | C-ELEC.CHIP;ECE-V1CA470P | |
| C955 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C956 | 61454-153-121 | C-CERAMIC CHIP;C1608 CH1H121JT | |
| C957 | 61454-244-471 | C-ELEC.CHIP;ECE-V1CA470P | |
| C958 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C959 | 61454-154-682 | C-CERAMIC CHIP;C1608 B1H 682KT | |
| C960 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C961 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C962 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C963 | 61454-153-121 | C-CERAMIC CHIP;C1608 CH1H121JT | |
| C964 | 61454-154-682 | C-CERAMIC CHIP;C1608 B1H 682KT | |
| C965 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C966 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C967 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CN901 | B6010-0777 | CONNECTOR-WAFER;53263-1691 WHT | |
| CN902 | B6010-0745 | CONNECTOR-WAFER;53263-1291 WHT | |
| D904 | 62169-102-054 | DIODE-SHOTTKY.CHIP;E10QS03-TE12R | |
| D907 | 62169-901-103 | DIODE CHIP;IMN10(T108) | |
| IC901 | B4008-0969 | IC-S/W REGU;TL1455C 5CH DIP | |
| IC902 | B4008-1128 | IC-OP AMP;TA75S01F(TE85L) QFP | |
| IC903 | B4008-1128 | IC-OP AMP;TA75S01F(TE85L) QFP | |
| L907 | B1144-0024 | COIL-CHIP;CHOKE 646CY-470M(47UH) 47UH-M T | |
| L908 | B1144-0022 | COIL-CHIP;CHOKE 646CY-100M(10UH)P3 10UH-M T | |
| L909 | B1144-0023 | COIL-CHIP;CHOKE 646CY-220M(22UH) 22UH-M T | |
| L911 | B1160-0011 | INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225 | |
| L912 | B1160-0011 | INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225 | |
| L913 | B1160-0019 | INDUCTOR,CHIP;330UH-K 73 NLC322522T-331K C3225 | |
| L914 | B1160-0019 | INDUCTOR,CHIP;330UH-K 73 NLC322522T-331K C3225 | |
| L915 | B1160-0019 | INDUCTOR,CHIP;330UH-K 73 NLC322522T-331K C3225 | |
| L917 | B1160-0011 | INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225 | |
| L950 | B1144-0032 | COIL-CHIP;CHOKE 646CY-101M 100MH-M T 7373 | |

| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| L951 | B1144-0031 | COIL-CHIP;CHOKE 646FY-471K 470MH-K T 7373 | |
| L952 | B1144-0031 | COIL-CHIP;CHOKE 646FY-471K 470MH-K T 7373 | |
| PS901 | B3065-0167 | FUSE;FSF 125V 2.0A 6.1MM UL/CSA 451002 C | |
| PS902 | B3065-0167 | FUSE;FSF 125V 2.0A 6.1MM UL/CSA 451002 C | |
| Q901 | 62129-303-012 | TRANSISTOR-CHIP,DTC144EU(T106) | |
| Q902 | 62129-303-011 | TRANSISTOR-CHIP,DTA144EU(T106) | |
| Q903 | 62129-303-011 | TRANSISTOR-CHIP,DTA144EU(T106) | |
| Q907 | 62129-304-007 | TRANSISTOR-CHIP,DTC 124EU(T106) | |
| Q908 | A4050-0098 | TR-GENERAL,CHIP;2SB1302 1.3W 5A 320MHZ 25V SI/PNP | |
| Q909 | 62129-302-022 | TRANSISTOR-CHIP,2SC4081-R(T106) | |
| Q911 | A4050-0098 | TR-GENERAL,CHIP;2SB1302 1.3W 5A 320MHZ 25V SI/PNP | |
| Q912 | 62129-303-012 | TRANSISTOR-CHIP,DTC144EU(T106) | |
| Q913 | 62129-302-022 | TRANSISTOR-CHIP,2SC4081-R(T106) | |
| Q914 | 62129-301-120 | TRANSISTOR.CHIP;2SB 1121(REEL)T-TC | |
| Q950 | B4056-0032 | TR-SWITCHING;FP101 1.3W 150MHZ SI/PNP T | |
| Q951 | 62129-302-022 | TRANSISTOR-CHIP,2SC4081-R(T106) | |
| Q952 | B4056-0032 | TR-SWITCHING;FP101 1.3W 150MHZ SI/PNP T | |
| Q953 | 62129-302-022 | TRANSISTOR-CHIP,2SC4081-R(T106) | |
| R902 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R903 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R904 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R905 | 61079-918-221 | R-CHIP;RH C1608 CS 221-J | |
| R906 | 61079-918-124 | R-CHIP;RH C1608 CS 124-J | |
| R907 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R908 | 61079-918-273 | R-CHIP;RH C1608 CS 273-J | |
| R909 | 61079-918-473 | R-CHIP;RH C1608 CS 473-J | |
| R910 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R913 | 61079-918-622 | R-CHIP;RH C1608 CS 622-J | |
| R914 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R915 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R916 | 61079-918-124 | R-CHIP;RH C1608 CS 124-J | |
| R917 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R918 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R919 | 61079-918-122 | R-CHIP;RH C1608 CS 122-J | |
| R920 | 61079-917-121 | R-CHIP;RH C2012 CS 121-J | |
| R921 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R922 | 61079-918-272 | R-CHIP;RH C1608 CS 272-J | |
| R923 | 61079-918-683 | R-CHIP;RH C1608 CS 683-J | |
| R924 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R925 | 61079-217-221 | R-CHIP;RH C3216 CS 221-J | |
| R926 | 61079-217-221 | R-CHIP;RH C3216 CS 221-J | |
| R928 | 61079-917-102 | R-CHIP;RH C2012 CS 102-J | |
| R929 | 61079-918-822 | R-CHIP;RH C1608 CS 822-J | |
| R932 | 61079-918-333 | R-CHIP;RH C1608 CS 333-J | |
| R933 | 61079-918-272 | R-CHIP;RH C1608 CS 272-J | |
| R935 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R950 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R951 | 61079-918-183 | R-CHIP;RH C1608 CS 183-J | |
| R952 | 61079-917-391 | R-CHIP;RH C2012 CS 391-J | |
| R953 | 61079-918-562 | R-CHIP;RH C1608 CS 562-J | |
| R954 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| R955 | 61079-917-391 | R-CHIP;RH C2012 CS 391-J | |
| R956 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R957 | 61079-918-183 | R-CHIP;RH C1608 CS 183-J | |
| R958 | 61079-918-562 | R-CHIP;RH C1608 CS 562-J | |
| R959 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| R960 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R961 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R962 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R963 | 61079-918-682 | R-CHIP;RH C1608 CS 682-J | |
| R964 | 61079-918-392 | R-CHIP;RH C1608 CS 392-J | |
| R965 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R966 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R967 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R968 | 61079-918-682 | R-CHIP;RH C1608 CS 682-J | |
| R969 | 61079-918-392 | R-CHIP;RH C1608 CS 392-J | |

| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| SW901 | B3006-0057 | SW-SLIDE;2C2P SH 4H SSST-0-12-B | |
| SW902 | B3018-0025 | SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY | |
| SW903 | B3006-0050 | SW SLIDE CHIP;SSSS2-13-11 | |
| T901 | 67189-0040-00 | CONVERTER-COIL;CMS64 6319-JPS-010 | |
| VR902 | B1056-0044 | VR-SEMI CHIP;EVM1SSX50B13 1KB CERMET | |
| VR903 | B1056-0044 | VR-SEMI CHIP;EVM1SSX50B13 1KB CERMET | |
| **163** | **69063-214-187** | **ASSY HOT SHOE BOARD;S8C-PAL VN-U12/BASIC** | |
| C1001 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CN1001 | B6010-0828 | CONNECTOR-WAFER;53261-0990 WHT | |
| CN1002 | B6010-0779 | CONNECTOR-WAFER;53261-0490 WHT | |
| Q1001 | 62129-101-173 | TRANSISTOR.CHIP;KSR 1104(REEL) | |
| R1001 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R1002 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R1003 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| RM1001 | B1294-0026 | MODULE-REMOCON;GP1U901X 38KHZ 940 MESH | |
| **162** | **69063-214-185** | **ASSY MAIN BOARD;S8C-PAL VP-U12 VTR(SS,VID,AUD,FUN)** | |
| VIDEO PARTS | | | |
| AV101 | A3040-0122 | JACK-RCA;PI3.3 MONO(VP-U12) 4P (A/V+DC) | |
| C101 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C103 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C104 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C105 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C106 | 61454-153-220 | C-CERAMIC CHIP;C1608 CH1H220JT | |
| C107 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C108 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C109 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C110 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C111 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C112 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C113 | 61454-153-390 | C-CERAMIC CHIP;C1608 CH1H390JT | |
| C114 | 61454-153-150 | C-CERAMIC CHIP;C1608 CH1H150JT | |
| C115 | 61454-153-101 | C-CERAMIC CHIP;C1608 CH1H101JT | |
| C116 | 61454-153-271 | C-CERAMIC CHIP;C1608 CH1H271JT | |
| C117 | 61454-153-330 | C-CERAMIC CHIP;C1608 CH1H330JT | |
| C118 | 61454-154-332 | C-CERAMIC CHIP;C1608 B1H 332KT | |
| C120 | 61454-242-221 | C-ELEC.CHIP;ECE-V0GA221P | |
| C121 | 61619-908-479 | C-ELEC.CHIP;UWX1C4R7 MCR2GB PI3 4.7U/25V | |
| C122 | 61454-153-470 | C-CERAMIC CHIP;C1608 CH1H470JT | |
| C123 | 61454-153-151 | C-CERAMIC CHIP;C1608 CH1H151JT | |
| C124 | 61454-153-111 | C-CERAMIC CHIP;C1608 CH1H111JT | |
| C125 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C126 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C127 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C128 | A1106-0107 | C-TANTALUM,CHIP;CS 35V T 224-M C3216 SCS1V 224MR-A | |
| C130 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C131 | 61454-243-471 | C-ELEC.CHIP;ECE-V0JA470P | |
| C132 | 61454-153-330 | C-CERAMIC CHIP;C1608 CH1H330JT | |
| C133 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C134 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C135 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V | |
| C136 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C137 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V | |
| C138 | A1106-0071 | C-TANTALUM.CHIP;SCN1C 105MR-A(16V/1U) | |
| C139 | 61454-155-223 | C-CERAMIC CHIP;C1608 JB1C 223KT | |
| C140 | 61454-154-682 | C-CERAMIC CHIP;C1608 B1H 682KT | |
| C141 | A1106-0228 | C-TANTALUM,CHIP;CS 20V T 684-M C3216 SCN1D684MR-A( | |
| C142 | 61454-153-300 | C-CERAMIC CHIP;C1608 CH1H300JT | |
| C143 | 61454-155-223 | C-CERAMIC CHIP;C1608 JB1C 223KT | |
| C144 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C145 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C146 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C147 | 61454-153-820 | C-CERAMIC CHIP;C1608 CH1H820JT | |
| C148 | 61454-153-270 | C-CERAMIC CHIP;C1608 CH1H270JT | |
| C149 | 61454-153-220 | C-CERAMIC CHIP;C1608 CH1H220JT | |
| C150 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C151 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |

| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| C152 | 61454-243-471 | C-ELEC.CHIP;ECE-V0JA470P | |
| C153 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C154 | A1106-0071 | C-TANTALUM.CHIP;SCN1C 105MR-A(16V/1U) | |
| C155 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C156 | 61454-153-220 | C-CERAMIC CHIP;C1608 CH1H220JT | |
| C157 | 61454-153-271 | C-CERAMIC CHIP;C1608 CH1H271JT | |
| C158 | 61454-155-223 | C-CERAMIC CHIP;C1608 JB1C 223KT | |
| C159 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C160 | 61454-153-180 | C-CERAMIC CHIP;C1608 CH1H180JT | |
| C161 | 61454-153-270 | C-CERAMIC CHIP;C1608 CH1H270JT | |
| C162 | 61454-153-101 | C-CERAMIC CHIP;C1608 CH1H101JT | |
| C164 | 61454-153-220 | C-CERAMIC CHIP;C1608 CH1H220JT | |
| C165 | 61454-153-101 | C-CERAMIC CHIP;C1608 CH1H101JT | |
| C166 | 61454-153-470 | C-CERAMIC CHIP;C1608 CH1H470JT | |
| C167 | 61454-153-470 | C-CERAMIC CHIP;C1608 CH1H470JT | |
| C168 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C169 | 61619-910-339 | C-ELEC.CHIP;UWX1V3R3 MCR2GB Pl3 3.3U/35V | |
| C170 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB Pl3 10U/16V | |
| C171 | A1106-0153 | C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U) | |
| C174 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C175 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C176 | 61454-153-330 | C-CERAMIC CHIP;C1608 CH1H330JT | |
| C177 | 61454-154-222 | C-CERAMIC CHIP;1608 B1H 222KT | |
| C178 | 61454-153-270 | C-CERAMIC CHIP;C1608 CH1H270JT | |
| C179 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| C180 | 61454-153-470 | C-CERAMIC CHIP;C1608 CH1H470JT | |
| C181 | 61454-153-100 | C-CERAMIC CHIP;C1608 CH1H100DT | |
| C182 | 61454-153-680 | C-CERAMIC CHIP;C1608 CH1H680JT | |
| C183 | 61454-153-100 | C-CERAMIC CHIP;C1608 CH1H100DT | |
| C184 | 61619-910-339 | C-ELEC.CHIP;UWX1V3R3 MCR2GB Pl3 3.3U/35V | |
| C185 | A1106-0153 | C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U) | |
| C186 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C187 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C188 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C189 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB Pl3 10U/16V | |
| C190 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB Pl3 10U/16V | |
| C191 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB Pl3 10U/16V | |
| C192 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C193 | A1106-0153 | C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U) | |
| C194 | 61454-153-150 | C-CERAMIC CHIP;C1608 CH1H150JT | |
| C195 | 61454-153-220 | C-CERAMIC CHIP;C1608 CH1H220JT | |
| C196 | 61454-153-221 | C-CERAMIC CHIP;C1608 CH1H221JT | |
| C197 | 61454-157-473 | C-CERAMIC CHIP;C1608 JF1C 473ZT | |
| C198 | 61454-153-151 | C-CERAMIC CHIP;C1608 CH1H151JT | |
| C199 | 61454-153-331 | C-CERAMIC CHIP;C1608 CH1H331JT | |
| C200 | 61454-153-391 | C-CERAMIC CHIP;C1608 JB1H 391KT | |
| C201 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C202 | 61454-153-181 | C-CERAMIC CHIP;C1608 CH1H181JT | |
| C203 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| C207 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| C209 | 61454-154-332 | C-CERAMIC CHIP;C1608 B1H 332KT | |
| C211 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C212 | 61454-153-470 | C-CERAMIC CHIP;C1608 CH1H470JT | |
| C214 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C215 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C217 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C218 | 61454-153-100 | C-CERAMIC CHIP;C1608 CH1H100DT | |
| C219 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C221 | 61454-153-820 | C-CERAMIC CHIP;C1608 CH1H820JT | |
| C222 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| C223 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C224 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C225 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C226 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| C227 | 61454-157-473 | C-CERAMIC CHIP;C1608 JF1C 473ZT | |
| C229 | 61454-154-472 | C-CERAMIC CHIP;C1608 JB1H 472KT | |

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|---|---|---|---|
| C230 | 61454-154-681 | C-CERAMIC CHIP;C1608 B1H 681KT | |
| C231 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C232 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C233 | A1106-0153 | C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U) | |
| C234 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C235 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C237 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C238 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C239 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C240 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| C241 | 61454-153-111 | C-CERAMIC CHIP;C1608 CH1H111JT | |
| C242 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| C243 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C244 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C245 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C246 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C247 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C248 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| C249 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C250 | 61454-153-150 | C-CERAMIC CHIP;C1608 CH1H150JT | |
| C251 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C252 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C253 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C254 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C255 | 61454-153-391 | C-CERAMIC CHIP;C1608 JB1H 391KT | |
| C256 | A1106-0028 | C-TANTALUM,CHIP;CS 20V T 475-M C3528 SCS1D 475MR-B | |
| C257 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C258 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| C259 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C260 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C261 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C262 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C263 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C264 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C265 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C266 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C267 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C268 | 61454-153-470 | C-CERAMIC CHIP;C1608 CH1H470JT | |
| C269 | 61454-154-561 | C-CERAMIC CHIP;C1608 B1H 561KT | |
| C271 | 61454-153-120 | C-CERAMIC CHIP;C1608 CH1H120JT | |
| C272 | 61454-153-560 | C-CERAMIC CHIP;C1608 CH1H560JT | |
| C274 | 61454-153-101 | C-CERAMIC CHIP;C1608 CH1H101JT | |
| C275 | 61454-153-151 | C-CERAMIC CHIP;C1608 CH1H151JT | |
| C276 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C277 | 61454-153-820 | C-CERAMIC CHIP;C1608 CH1H820JT | |
| C278 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| C279 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C280 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C281 | 61454-153-220 | C-CERAMIC CHIP;C1608 CH1H220JT | |
| C298 | 61454-153-101 | C-CERAMIC CHIP;C1608 CH1H101JT | |
| C299 | 61454-153-390 | C-CERAMIC CHIP;C1608 CH1H390JT | |
| C300 | A1106-0150 | C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U) | |
| C301 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| C304 | 61454-153-180 | C-CERAMIC CHIP;C1608 CH1H180JT | |
| C305 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CN101 | B6010-0871 | CONNECTOR-WAFER;53398-0590 WHT | |
| D102 | 62169-901-101 | DIODE CHIP;DAN202U(T146) | |
| D104 | 62169-901-101 | DIODE CHIP;DAN202U(T146) | |
| D105 | 62169-901-077 | DIODE.CHIP;MA110-(TX) | |
| D106 | 62169-901-077 | DIODE.CHIP;MA110-(TX) | |
| D107 | 62169-901-062 | DIODE.CHIP;DCC010TA-F | |
| IC101 | B4012-0198 | IC-LINEAR;NJM2249M SOP | |
| IC102 | B4008-1077 | IC;NJM2406F SOP | |
| IC103 | B4014-0040 | IC-CCD;CXL1506M SOP | |
| IC104 | B4008-1040 | IC;CXA1700R QFP | |
| IC105 | B4008-1124 | IC;M52358VP SOP | |

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|---|---|---|---|
| IC106 | 62119-121-033 | IC-FP;CXA1202R-T3 | |
| JR301 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| L101 | B1160-0029 | INDUCTOR,CHIP;8.2UH-J 73 NL252018T-8R2J C2520 | |
| L102 | B1160-0032 | INDUCTOR,CHIP;33UH-J 73 NL252018T-330J C2520 | |
| L103 | B1160-0037 | INDUCTOR,CHIP;330UH-J 73 NL322522T-331J C3225 | |
| L104 | B1160-0011 | INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225 | |
| L105 | 62429-962-102 | INDUCTOR-CHIP;NL322522T 101-J | |
| L106 | B1160-0037 | INDUCTOR,CHIP;330UH-J 73 NL322522T-331J C3225 | |
| L107 | B1160-0040 | INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520 | |
| L108 | B1160-0011 | INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225 | |
| L109 | B1160-0030 | INDUCTOR,CHIP;10UH-J 73 NL252018T-100J C2520 | |
| L111 | B1160-0033 | INDUCTOR,CHIP;56UH-J 73 NL252018T-560J C2520 | |
| L112 | 62429-962-181 | INDUCTOR-CHIP;NL322522T 181-J | |
| L113 | 62429-962-181 | INDUCTOR-CHIP;NL322522T 181-J | |
| L114 | B1160-0039 | INDUCTOR,CHIP;10UH-K 73 NLC252018T-100K C2520 | |
| L115 | B1160-0040 | INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520 | |
| L116 | B1160-0028 | INDUCTOR,CHIP;4.7UH-J 73 NL252018T-4R7J C2520 | |
| L117 | B1160-0028 | INDUCTOR,CHIP;4.7UH-J 73 NL252018T-4R7J C2520 | |
| L119 | B1160-0037 | INDUCTOR,CHIP;330UH-J 73 NL322522T-331J C3225 | |
| L120 | B1160-0038 | INDUCTOR,CHIP;470UH-J 73 NL322522T-471J C3225 | |
| L121 | B1160-0032 | INDUCTOR,CHIP;33UH-J 73 NL252018T-330J C2520 | |
| L122 | B1160-0040 | INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520 | |
| L123 | B1160-0040 | INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520 | |
| L124 | 62429-962-470 | INDUCTOR-CHIP;NL322522T 470-J | |
| L125 | B1160-0033 | INDUCTOR,CHIP;56UH-J 73 NL252018T-560J C2520 | |
| L126 | B1160-0037 | INDUCTOR,CHIP;330UH-J 73 NL322522T-331J C3225 | |
| L127 | B1160-0040 | INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520 | |
| L128 | 62429-962-152 | INDUCTOR-CHIP;NL322522T 151-J | |
| L129 | B1160-0040 | INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520 | |
| L130 | B1160-0008 | INDUCTOR,CHIP;220UH-K 73 NLC322522T-221K C3225 | |
| L131 | B1160-0008 | INDUCTOR,CHIP;220UH-K 73 NLC322522T-221K C3225 | |
| L132 | 62429-962-339 | INDUCTOR CHIP;NL322522T 3R3-J | |
| L133 | 62429-962-102 | INDUCTOR-CHIP;NL322522T 101-J | |
| L134 | B1160-0008 | INDUCTOR,CHIP;220UH-K 73 NLC322522T-221K C3225 | |
| L135 | 62429-962-561 | INDUCTOR-CHIP;NL322522T 560-J | |
| L136 | B1160-0039 | INDUCTOR,CHIP;10UH-K 73 NLC252018T-100K C2520 | |
| L137 | 62429-962-100 | INDUCTOR-CHIP;NL322522T 100-J | |
| L140 | 62429-962-124 | INDUCTOR-CHIP;NL322522T 1R0-K | |
| L141 | B1160-0028 | INDUCTOR,CHIP;4.7UH-J 73 NL252018T-4R7J C2520 | |
| L142 | B1160-0040 | INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520 | |
| L143 | B1160-0040 | INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520 | |
| L144 | B1160-0040 | INDUCTOR,CHIP;33UH-K 73 NLC252018T-330K C2520 | |
| L145 | B1160-0033 | INDUCTOR,CHIP;56UH-J 73 NL252018T-560J C2520 | |
| Q102 | 62129-301-115 | TRANSISTOR.CHIP;2SB 1119(REEL)T-TC | |
| Q103 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| Q106 | 62129-302-023 | TRANSISTOR-CHIP;2SA1576-R(T106) | |
| Q107 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| Q109 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q110 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q111 | 62129-302-023 | TRANSISTOR-CHIP;2SA1576-R(T106) | |
| Q112 | 62129-302-023 | TRANSISTOR-CHIP;2SA1576-R(T106) | |
| Q113 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q114 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q115 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q116 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q117 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q118 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q119 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q120 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q121 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q122 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q123 | 62129-303-011 | TRANSISTOR-CHIP;DTA144EU(T106) | |
| Q124 | 62129-301-116 | TRANSISTOR.CHIP;2SC 3142(REEL) | |
| Q125 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q126 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q127 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |

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| Q128 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q129 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q130 | 62129-303-011 | TRANSISTOR-CHIP;DTA144EU(T106) | |
| Q131 | 62129-303-011 | TRANSISTOR-CHIP;DTA144EU(T106) | |
| Q133 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q134 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q137 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q138 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q139 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q140 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q141 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q142 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q143 | 62129-302-023 | TRANSISTOR-CHIP;2SA1576-R(T106) | |
| Q144 | 62129-303-011 | TRANSISTOR-CHIP;DTA144EU(T106) | |
| Q145 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q146 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q147 | 62129-303-011 | TRANSISTOR-CHIP;DTA144EU(T106) | |
| Q148 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| Q149 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| Q150 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| Q151 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| Q152 | 62129-302-023 | TRANSISTOR-CHIP;2SA1576-R(T106) | |
| Q153 | 62129-303-011 | TRANSISTOR-CHIP;DTA144EU(T106) | |
| Q154 | 62129-302-023 | TRANSISTOR-CHIP;2SA1576-R(T106) | |
| Q155 | 62129-302-023 | TRANSISTOR-CHIP;2SA1576-R(T106) | |
| Q156 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| Q157 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| Q158 | 62129-303-011 | TRANSISTOR-CHIP;DTA144EU(T106) | |
| Q159 | 62129-302-023 | TRANSISTOR-CHIP;2SA1576-R(T106) | |
| Q160 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q161 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| Q162 | 62129-303-011 | TRANSISTOR-CHIP;DTA144EU(T106) | |
| Q163 | 62129-302-023 | TRANSISTOR-CHIP;2SA1576-R(T106) | |
| R101 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R102 | A1020-0347 | R-CHIP;RMC 1/16 3.3M-J | |
| R104 | 61079-918-151 | R-CHIP;RH C1608 CS 151-J | |
| R105 | 61079-918-682 | R-CHIP;RH C1608 CS 682-J | |
| R106 | 61079-918-392 | R-CHIP;RH C1608 CS 392-J | |
| R107 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| R108 | A1020-0598 | R-CHIP;RH 1/16 CS 123-F C1608 | |
| R109 | A1020-0598 | R-CHIP;RH 1/16 CS 123-F C1608 | |
| R110 | A1020-0592 | R-CHIP;RH 1/16 CS 103-F C1608 | |
| R111 | A1020-0598 | R-CHIP;RH 1/16 CS 123-F C1608 | |
| R112 | 61079-918-332 | R-CHIP;RH C1608 CS 332-J | |
| R113 | 61079-918-562 | R-CHIP;RH C1608 CS 562-J | |
| R114 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R115 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R116 | 61079-918-682 | R-CHIP;RH C1608 CS 682-J | |
| R117 | A1020-0430 | R-CHIP;RH 1/16 CS 203-J C1608 RMC 1/16 20K-J | |
| R118 | 61079-918-272 | R-CHIP;RH C1608 CS 272-J | |
| R120 | A1020-0591 | R-CHIP;RH 1/16 CS 102-F C1608 | |
| R121 | A1020-0591 | R-CHIP;RH 1/16 CS 102-F C1608 | |
| R122 | 61079-918-822 | R-CHIP;RH C1608 CS 822-J | |
| R123 | 61079-918-122 | R-CHIP;RH C1608 CS 122-J | |
| R124 | 61079-918-822 | R-CHIP;RH C1608 CS 822-J | |
| R125 | 61079-918-221 | R-CHIP;RH C1608 CS 221-J | |
| R126 | 61079-918-151 | R-CHIP;RH C1608 CS 151-J | |
| R127 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R128 | 61079-918-272 | R-CHIP;RH C1608 CS 272-J | |
| R131 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R132 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R133 | 61079-918-681 | R-CHIP;RH C1608 CS 681-J | |
| R134 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R135 | 61079-918-750 | R-CHIP;RH C1608 CS 750-J | |
| R136 | 61079-918-242 | R-CHIP;RH C1608 CS 242-J | |
| R138 | A1020-0591 | R-CHIP;RH 1/16 CS 102-F C1608 | |

| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| R139 | 61079-918-681 | R-CHIP;RH C1608 CS 681-J | |
| R140 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| R141 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R142 | 61079-918-681 | R-CHIP;RH C1608 CS 681-J | |
| R143 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| R144 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R145 | 61079-918-221 | R-CHIP;RH C1608 CS 221-J | |
| R146 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R147 | 61079-918-339 | R-CHIP;RH C1608 CS 3R3-J | |
| R148 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R149 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R150 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R151 | 61079-918-820 | R-CHIP;RH C1608 CS 820-J | |
| R152 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R153 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R154 | 61079-918-123 | R-CHIP;RH C1608 CS 123-J | |
| R155 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R156 | 61079-918-564 | R-CHIP;RH C1608 CS 564-J | |
| R157 | 61079-918-390 | R-CHIP;RH C1608 CS 390-J | |
| R158 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R159 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R160 | 61079-918-390 | R-CHIP;RH C1608 CS 390-J | |
| R161 | 61079-918-123 | R-CHIP;RH C1608 CS 123-J | |
| R162 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R163 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R164 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R165 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R166 | 61079-918-183 | R-CHIP;RH C1608 CS 183-J | |
| R167 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| R169 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R170 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R171 | 61079-918-823 | R-CHIP;RH C1608 CS 823-J | |
| R172 | 61079-918-121 | R-CHIP;RH C1608 CS 121-J | |
| R175 | 61079-918-562 | R-CHIP;RH C1608 CS 562-J | |
| R176 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R177 | 61079-918-392 | R-CHIP;RH C1608 CS 392-J | |
| R178 | 61079-918-152 | R-CHIP;RH C1608 CS 152-J | |
| R180 | 61079-918-183 | R-CHIP;RH C1608 CS 183-J | |
| R181 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R182 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R183 | 61079-918-560 | R-CHIP;RH C1608 CS 560-J | |
| R184 | 61079-918-681 | R-CHIP;RH C1608 CS 681-J | |
| R185 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R186 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| R187 | 61079-918-122 | R-CHIP;RH C1608 CS 122-J | |
| R188 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R191 | A1020-0369 | R-CHIP;RH 1/10 CS 183-F C2012 RMC | |
| R192 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| R193 | 61079-918-680 | R-CHIP;RH C1608 CS 680-J | |
| R194 | 61079-918-682 | R-CHIP;RH C1608 CS 682-J | |
| R195 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| R196 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R197 | 61079-918-242 | R-CHIP;RH C1608 CS 242-J | |
| R198 | 61079-918-271 | R-CHIP;RH C1608 CS 271-J | |
| R199 | 61079-918-680 | R-CHIP;RH C1608 CS 680-J | |
| R200 | 61079-918-390 | R-CHIP;RH C1608 CS 390-J | |
| R201 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R202 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| R203 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R205 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R206 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R207 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R208 | 61079-918-331 | R-CHIP;RH C1608 CS 331-J | |
| R209 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R210 | 61079-918-333 | R-CHIP;RH C1608 CS 333-J | |
| R211 | 61079-918-221 | R-CHIP;RH C1608 CS 221-J | |

| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| R212 | 61079-918-681 | R-CHIP;RH C1608 CS 681-J | |
| R213 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R214 | 61079-918-821 | R-CHIP;RH C1608 CS 821-J | |
| R215 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R216 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R217 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R218 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R219 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R220 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R221 | 61079-916-332 | R-CHIP;RH C2012 CS 332-F | |
| R222 | 61079-918-122 | R-CHIP;RH C1608 CS 122-J | |
| R223 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R225 | 61079-918-821 | R-CHIP;RH C1608 CS 821-J | |
| R226 | 61079-918-333 | R-CHIP;RH C1608 CS 333-J | |
| R227 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R228 | 61079-918-153 | R-CHIP;RH C1608 CS 153-J | |
| R229 | 61079-918-122 | R-CHIP;RH C1608 CS 122-J | |
| R232 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R233 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R234 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R235 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| R236 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| R237 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R238 | 61079-918-271 | R-CHIP;RH C1608 CS 271-J | |
| R239 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| R240 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R241 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R242 | 61079-918-562 | R-CHIP;RH C1608 CS 562-J | |
| R243 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R244 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| R245 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R246 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R247 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| R250 | 61079-918-682 | R-CHIP;RH C1608 CS 682-J | |
| R251 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R252 | 61079-918-153 | R-CHIP;RH C1608 CS 153-J | |
| R253 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R254 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R255 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R256 | 61079-918-473 | R-CHIP;RH C1608 CS 473-J | |
| R257 | 61079-918-221 | R-CHIP;RH C1608 CS 221-J | |
| R259 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R260 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R261 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| R262 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R263 | 61079-918-154 | R-CHIP;RH C1608 CS 154-J | |
| R264 | 61079-918-154 | R-CHIP;RH C1608 CS 154-J | |
| R265 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R266 | 61079-918-823 | R-CHIP;RH C1608 CS 823-J | |
| R267 | 61079-918-151 | R-CHIP;RH C1608 CS 151-J | |
| R268 | 61079-918-122 | R-CHIP;RH C1608 CS 122-J | |
| R271 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R272 | 61079-918-152 | R-CHIP;RH C1608 CS 152-J | |
| R273 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R274 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R275 | 61079-918-473 | R-CHIP;RH C1608 CS 473-J | |
| R276 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R277 | 61079-918-822 | R-CHIP;RH C1608 CS 822-J | |
| R278 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| R279 | 61079-918-823 | R-CHIP;RH C1608 CS 823-J | |
| R280 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R281 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R282 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R283 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R284 | 61079-918-333 | R-CHIP;RH C1608 CS 333-J | |
| R285 | 61079-918-682 | R-CHIP;RH C1608 CS 682-J | |

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|---|---|---|---|
| R286 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R287 | 61079-918-682 | R-CHIP;RH C1608 CS 682-J | |
| R288 | 61079-918-333 | R-CHIP;RH C1608 CS 333-J | |
| R289 | 61079-918-121 | R-CHIP;RH C1608 CS 121-J | |
| R290 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R291 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R292 | 61079-918-221 | R-CHIP;RH C1608 CS 221-J | |
| R293 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R294 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R295 | 61079-918-332 | R-CHIP;RH C1608 CS 332-J | |
| R296 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| R297 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R298 | 61079-918-152 | R-CHIP;RH C1608 CS 152-J | |
| R299 | 61079-918-473 | R-CHIP;RH C1608 CS 473-J | |
| R300 | 61079-918-273 | R-CHIP;RH C1608 CS 273-J | |
| R301 | 61079-918-273 | R-CHIP;RH C1608 CS 273-J | |
| R302 | 61079-918-473 | R-CHIP;RH C1608 CS 473-J | |
| R303 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R304 | 61079-918-152 | R-CHIP;RH C1608 CS 152-J | |
| R305 | 61079-918-181 | R-CHIP;RH C1608 CS 181-J | |
| R306 | 61079-918-333 | R-CHIP;RH C1608 CS 333-J | |
| R307 | 61079-918-821 | R-CHIP;RH C1608 CS 821-J | |
| R308 | 61079-918-221 | R-CHIP;RH C1608 CS 221-J | |
| R309 | 61079-918-331 | R-CHIP;RH C1608 CS 331-J | |
| R310 | 61079-918-151 | R-CHIP;RH C1608 CS 151-J | |
| R311 | 61079-918-682 | R-CHIP;RH C1608 CS 682-J | |
| R312 | 61079-918-331 | R-CHIP;RH C1608 CS 331-J | |
| R313 | 61079-918-473 | R-CHIP;RH C1608 CS 473-J | |
| R314 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R315 | 61079-918-121 | R-CHIP;RH C1608 CS 121-J | |
| R316 | 61079-918-272 | R-CHIP;RH C1608 CS 272-J | |
| R317 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R318 | 61079-918-273 | R-CHIP;RH C1608 CS 273-J | |
| R319 | 61079-918-121 | R-CHIP;RH C1608 CS 121-J | |
| R320 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| R321 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R322 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R323 | 61079-918-100 | R-CHIP;RH C1608 CS 100-J | |
| R324 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R325 | 61079-918-333 | R-CHIP;RH C1608 CS 333-J | |
| R326 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R327 | 61079-918-271 | R-CHIP;RH C1608 CS 271-J | |
| R328 | 61079-918-220 | R-CHIP;RH C1608 CS 220-J | |
| R329 | 61079-918-221 | R-CHIP;RH C1608 CS 221-J | |
| R330 | 61079-918-122 | R-CHIP;RH C1608 CS 122-J | |
| R341 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R342 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R343 | 61079-918-100 | R-CHIP;RH C1608 CS 100-J | |
| R344 | 61079-918-392 | R-CHIP;RH C1608 CS 392-J | |
| R345 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| R347 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R350 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R351 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R352 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R355 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R356 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R357 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R360 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R361 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R362 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| TP101 | B6010-0893 | CONNECTOR-HOUSING;SD-52357-0691 WHT | |
| TP102 | B6010-0887 | CONNECTOR-HOUSING;SD-52357-2491 WHT | |
| VR101 | B1056-0051 | VR-SEMI CHIP;EVM1SSX50B54 50KB CERMET | |
| VR102 | B1056-0051 | VR-SEMI CHIP;EVM1SSX50B54 50KB CERMET | |
| VR103 | B1056-0021 | VR-SEMI CHIP;EVM1SSX50BE3 2.2KB CERMET | |
| VR105 | B1056-0052 | VR-SEMI CHIP;EVM1SSX50B52 500B CERMET | |

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| VR106 | B1056-0021 | VR-SEMI CHIP;EVM1SSX50BE3 2.2KB CERMET | |
| VR107 | B1056-0048 | VR-SEMI CHIP;EVM1SSX50B24 20KB CERMET | |
| X101 | B1280-0077 | CRYSTAL;4.433619MHZ HC-49/U-S 20PPM | |
| AUDIO PARTS | | | |
| C431 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C432 | 61454-243-471 | C-ELEC.CHIP;ECE-V0JA470P | |
| C433 | 61454-156-273 | C-CERAMIC CHIP;C1608 JB1C 273KT | |
| C434 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C436 | 61619-908-479 | C-ELEC.CHIP;UWX1C4R7 MCR2GB PI3 4.7U/25V | |
| C437 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C442 | 61454-157-473 | C-CERAMIC CHIP;C1608 JF1C 473ZT | |
| C443 | 61454-157-473 | C-CERAMIC CHIP;C1608 JF1C 473ZT | |
| C445 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C446 | 61454-153-560 | C-CERAMIC CHIP;C1608 CH1H560JT | |
| C448 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C449 | 61454-154-222 | C-CERAMIC CHIP;1608 B1H 222KT | |
| C450 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C451 | 61619-911-010 | C-ELEC.CHIP;UWX1H010 MCR2GB PI3 1U/50V | |
| C452 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V | |
| C453 | 61454-154-222 | C-CERAMIC CHIP;1608 B1H 222KT | |
| C454 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V | |
| C455 | 61619-911-010 | C-ELEC.CHIP;UWX1H010 MCR2GB PI3 1U/50V | |
| C456 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C457 | 61454-153-221 | C-CERAMIC CHIP;C1608 CH1H221JT | |
| C458 | 61619-908-479 | C-ELEC.CHIP;UWX1C4R7 MCR2GB PI3 4.7U/25V | |
| C459 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C460 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C471 | A1106-0105 | C-TANTALUM,CHIP;CS 35V T 104-M C3216 SCN1V 104MR-A | |
| C472 | 61454-155-223 | C-CERAMIC CHIP;C1608 JB1C 223KT | |
| C473 | A1106-0105 | C-TANTALUM,CHIP;CS 35V T 104-M C3216 SCN1V 104MR-A | |
| C474 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V | |
| C475 | 61454-154-562 | C-CERAMIC CHIP;C1608 B1H 562KT | |
| C476 | A1106-0155 | C-TANTALUM,CHIP;SCS0J 476MR-C(6.3V/47U) | |
| C477 | A1106-0105 | C-TANTALUM,CHIP;CS 35V T 104-M C3216 SCN1V 104MR-A | |
| C490 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C491 | 61454-243-471 | C-ELEC.CHIP;ECE-V0JA470P | |
| IC431 | B4000-0028 | IC-ROM;LA7454W QFP | |
| Q471 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q472 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| Q473 | 62129-302-022 | TRANSISTOR-CHIP;2SC4081-R(T106) | |
| R431 | 61079-918-393 | R-CHIP;RH C1608 CS 393-J | |
| R432 | 61079-918-623 | R-CHIP;RH C1608 CS 623-J | |
| R433 | 61079-918-274 | R-CHIP;RH C1608 CS 274-J | |
| R434 | 61079-918-123 | R-CHIP;RH C1608 CS 123-J | |
| R436 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R437 | A1020-0347 | R-CHIP;RMC 1/16 3.3M-J | |
| R440 | 61079-918-682 | R-CHIP;RH C1608 CS 682-J | |
| R441 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R442 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| R443 | 61079-918-333 | R-CHIP;RH C1608 CS 333-J | |
| R444 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R446 | 61079-918-153 | R-CHIP;RH C1608 CS 153-J | |
| R451 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R452 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R453 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R454 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R455 | 61079-918-752 | R-CHIP;RH C1608 CS 752-J | |
| R471 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R472 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R473 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R474 | 61079-918-272 | R-CHIP;RH C1608 CS 272-J | |
| R475 | 61079-918-122 | R-CHIP;RH C1608 CS 122-J | |
| R476 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R477 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R479 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R480 | 61079-918-221 | R-CHIP;RH C1608 CS 221-J | |

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| R481 | 61079-918-273 | R-CHIP;RH C1608 CS 273-J | |
| R482 | 61079-918-181 | R-CHIP;RH C1608 CS 181-J | |
| R483 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R484 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| R485 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R490 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R491 | 61079-918-220 | R-CHIP;RH C1608 CS 220-J | |
| R492 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R493 | 61079-918-183 | R-CHIP;RH C1608 CS 183-J | |
| R494 | 61079-918-752 | R-CHIP;RH C1608 CS 752-J | |
| R495 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R497 | 61079-918-684 | R-CHIP;RH C1608 CS 684-J | |
| R499 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| VR431 | B1056-0045 | VR-SEMI CHIP;EVM1SSX50B14 10KB CERMET | |
| SYSCON/SERVO PARTS | | | |
| BD501 | 62429-014-337 | CHIP-FERRITE BEAD;HF50ACB322513-T | |
| C501 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| C502 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C503 | 61454-153-100 | C-CERAMIC CHIP;C1608 CH1H100DT | |
| C504 | 61454-153-080 | C-CERAMIC CHIP;C1608 CH1H080DT | |
| C506 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C507 | 61454-243-101 | C-ELEC.CHIP;ECE-V0JA101P | |
| C508 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C509 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C510 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C511 | 61454-244-471 | C-ELEC.CHIP;ECE-V1CA470P | |
| C513 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C514 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C515 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C516 | 61454-153-330 | C-CERAMIC CHIP;C1608 CH1H330JT | |
| C517 | 61454-153-220 | C-CERAMIC CHIP;C1608 CH1H220JT | |
| C518 | 61454-153-120 | C-CERAMIC CHIP;C1608 CH1H120JT | |
| C519 | 61454-153-120 | C-CERAMIC CHIP;C1608 CH1H120JT | |
| C520 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C521 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C522 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C523 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C524 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C526 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C527 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C528 | 61454-154-472 | C-CERAMIC CHIP;C1608 JB1H 472KT | |
| C529 | 61454-155-223 | C-CERAMIC CHIP;C1608 JB1C 223KT | |
| C530 | 61454-155-223 | C-CERAMIC CHIP;C1608 JB1C 223KT | |
| C531 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C532 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C533 | 61454-157-473 | C-CERAMIC CHIP;C1608 JF1C 473ZT | |
| C534 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C535 | 61454-153-271 | C-CERAMIC CHIP;C1608 CH1H271JT | |
| C536 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C537 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C538 | 61454-153-391 | C-CERAMIC CHIP;C1608 JB1H 391KT | |
| C539 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C540 | A1106-0150 | C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U) | |
| C541 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C544 | A1106-0083 | C-TANTALUM,CHIP;CS 20V T 225-M C3528 SCN1D 225MR-B | |
| C545 | A1100-0833 | C-CERAMIC,CHIP;CK 73 X7R 16V T 224-K C3216 C3216X7 | |
| C546 | A1100-0833 | C-CERAMIC,CHIP;CK 73 X7R 16V T 224-K C3216 C3216X7 | |
| C547 | 61454-154-332 | C-CERAMIC CHIP;C1608 B1H 332KT | |
| C548 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C549 | 61454-158-473 | C-CERAMIC CHIP;C1608 JB1C 473KT | |
| C550 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C551 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C552 | A1100-0833 | C-CERAMIC,CHIP;CK 73 X7R 16V T 224-K C3216 C3216X7 | |
| C553 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| C555 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C556 | 61454-154-332 | C-CERAMIC CHIP;C1608 B1H 332KT | |

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|---|---|---|---|
| C557 | 61454-154-332 | C-CERAMIC CHIP;C1608 B1H 332KT | |
| C558 | 61454-155-223 | C-CERAMIC CHIP;C1608 JB1C 223KT | |
| C559 | 61454-243-471 | C-ELEC.CHIP;ECE-V0JA470P | |
| C570 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C572 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C573 | 61454-153-151 | C-CERAMIC CHIP;C1608 CH1H151JT | |
| C575 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C576 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C577 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C578 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C579 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| C580 | A1106-0153 | C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U) | |
| C581 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C582 | 61454-153-331 | C-CERAMIC CHIP;C1608 CH1H331JT | |
| C583 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| C586 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| C587 | A1106-0127 | C-TANTALUM,CHIP;CS 6.3V T 107-M C7343 | |
| CN501 | B6012-0230 | CONNECTOR-HOUSING;52357-1691 WHT | |
| CN502 | B6012-0229 | CONNECTOR-HOUSING;52357-1291 WHT | |
| CN503 | B6010-0894 | CONNECTOR-HOUSING;IL-WXA-30S-VF-E1000 WHT | |
| CN504 | B6010-0828 | CONNECTOR-WAFER;53261-0990 WHT | |
| IC501 | B4008-1038 | IC;S-8420BF-T1 SOP | |
| IC502 | B4004-0198 | IC-LOGIC;BA6285FS SOP | |
| IC503 | 67199-0118-00 | MICOM;CXP80P724 VN-405 QFP | |
| IC504 | A4004-0197 | IC-LOGIC;KA8322 QFP | |
| IC505 | B4008-0916 | IC-DRIVE;TPIC1327DF SOP | |
| IC506 | B4008-0870 | IC;LB1851M QFP(TP-T1) | |
| IC507 | B4004-0199 | IC-LOGIC;TC7SU04F SOP | |
| IC508 | B4008-1078 | IC-QFP;BU5997 | |
| L501 | B1160-0010 | INDUCTOR-CHIP;NLC322522T-101K | |
| L502 | B1160-0033 | INDUCTOR,CHIP;56UH-J 73 NL252018T-560J C2520 | |
| L503 | B1160-0010 | INDUCTOR-CHIP;NLC322522T-101K | |
| L504 | B1160-0010 | INDUCTOR-CHIP;NLC322522T-101K | |
| L505 | B1160-0010 | INDUCTOR-CHIP;NLC322522T-101K | |
| L506 | B1160-0010 | INDUCTOR-CHIP;NLC322522T-101K | |
| Q501 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| Q502 | 62129-302-023 | TRANSISTOR-CHIP;2SA1576-R(T106) | |
| Q503 | 62129-302-023 | TRANSISTOR-CHIP;2SA1576-R(T106) | |
| R501 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| R502 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R503 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R504 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R505 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R506 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R507 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R508 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R509 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R512 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R513 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R518 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R519 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R520 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R521 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R522 | 61079-916-334 | R-CHIP;RH C2012 CS 334-F | |
| R523 | A1020-0363 | R-CHIP;RH 1/10 CS 153-F C2012 RMC | |
| R524 | 61079-916-334 | R-CHIP;RH C2012 CS 334-F | |
| R525 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R526 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R527 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R528 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R529 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R530 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R532 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R533 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R534 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R537 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |

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|---|---|---|---|
| R538 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R539 | 61079-916-104 | R-CHIP;RH C2012 CS 104-F | |
| R540 | A1020-0369 | R-CHIP;RH 1/10 CS 183-F C2012 RMC | |
| R541 | 61079-916-104 | R-CHIP;RH C2012 CS 104-F | |
| R542 | A1020-0369 | R-CHIP;RH 1/10 CS 183-F C2012 RMC | |
| R543 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R544 | 61079-916-333 | R-CHIP;RH C2012 CS 333-F | |
| R545 | 61079-916-333 | R-CHIP;RH C2012 CS 333-F | |
| R546 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R547 | 61079-918-331 | R-CHIP;RH C1608 CS 331-J | |
| R548 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R549 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R550 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R551 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R552 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R553 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R554 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R555 | 61079-916-333 | R-CHIP;RH C2012 CS 333-F | |
| R556 | A1020-0412 | R-CHIP;RH 1/10 CS 683-F C2012 RMC | |
| R557 | 61079-916-333 | R-CHIP;RH C2012 CS 333-F | |
| R558 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R559 | 61079-916-104 | R-CHIP;RH C2012 CS 104-F | |
| R560 | 61079-217-101 | R-CHIP;RH C3216 CS 101-J | |
| R561 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R566 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R567 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R568 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R569 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R570 | 61079-918-623 | R-CHIP;RH C1608 CS 623-J | |
| R571 | 61079-918-223 | R-CHIP;RH C1608 CS 223-J | |
| R572 | 61079-918-684 | R-CHIP;RH C1608 CS 684-J | |
| R573 | 61079-918-152 | R-CHIP;RH C1608 CS 152-J | |
| R574 | 61079-918-152 | R-CHIP;RH C1608 CS 152-J | |
| R575 | A1020-0430 | R-CHIP;RH 1/16 CS 203-J C1608 RMC 1/16 20K-J | |
| R579 | 61079-918-393 | R-CHIP;RH C1608 CS 393-J | |
| R580 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| R581 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R584 | 61079-918-474 | R-CHIP;RH C1608 CS 474-J | |
| R585 | 61079-918-474 | R-CHIP;RH C1608 CS 474-J | |
| R586 | 61079-917-393 | R-CHIP;RH C2012 CS 393-J | |
| R587 | 61079-918-331 | R-CHIP;RH C1608 CS 331-J | |
| R588 | 61079-918-273 | R-CHIP;RH C1608 CS 273-J | |
| R589 | 61079-917-010 | R-CHIP;RH C2012 CS 010-J | |
| R590 | 61079-917-010 | R-CHIP;RH C2012 CS 010-J | |
| R591 | 61079-918-292 | R-CHIP;RH C1608 CS 2R2-J | |
| R592 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R593 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R594 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R595 | A1020-0430 | R-CHIP;RH 1/16 CS 203-J C1608 RMC 1/16 20K-J | |
| R598 | 61079-917-010 | R-CHIP;RH C2012 CS 010-J | |
| R599 | 61079-917-010 | R-CHIP;RH C2012 CS 010-J | |
| R600 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| R601 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R602 | A1020-0363 | R-CHIP;RH 1/10 CS 153-F C2012 RMC | |
| R603 | 61079-918-563 | R-CHIP;RH C1608 CS 563-J | |
| R604 | 61079-918-224 | R-CHIP;RH C1608 CS 224-J | |
| R607 | 61079-916-104 | R-CHIP;RH C2012 CS 104-F | |
| R608 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R609 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R610 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R611 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R612 | 61079-918-273 | R-CHIP;RH C1608 CS 273-J | |
| R613 | 61079-918-273 | R-CHIP;RH C1608 CS 273-J | |
| R614 | 61079-918-292 | R-CHIP;RH C1608 CS 2R2-J | |
| R615 | 61079-918-292 | R-CHIP;RH C1608 CS 2R2-J | |
| R616 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |

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|---|---|---|---|
| R617 | 61079-918-272 | R-CHIP;RH C1608 CS 272-J | |
| R618 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| R619 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R620 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R621 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R622 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R624 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R625 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R626 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R630 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R631 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R635 | 61079-918-473 | R-CHIP;RH C1608 CS 473-J | |
| R636 | 61079-918-473 | R-CHIP;RH C1608 CS 473-J | |
| R640 | 61079-916-103 | R-CHIP;RH C2012 CS 103-F | |
| R641 | 61079-916-104 | R-CHIP;RH C2012 CS 104-F | |
| R642 | A1020-0430 | R-CHIP;RH 1/16 CS 203-J C1608 RMC 1/16 20K-J | |
| R643 | 61079-918-105 | R-CHIP;RH C1608 CS 105-J | |
| R644 | 61079-918-473 | R-CHIP;RH C1608 CS 473-J | |
| R646 | 61079-918-333 | R-CHIP;RH C1608 CS 333-J | |
| R647 | 61079-918-393 | R-CHIP;RH C1608 CS 393-J | |
| R648 | 61079-918-561 | R-CHIP;RH C1608 CS 561-J | |
| R653 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R654 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| R655 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R657 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R658 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| R662 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R663 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R664 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R665 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R666 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| R668 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R670 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| R671 | 61079-918-473 | R-CHIP;RH C1608 CS 473-J | |
| R677 | 61079-918-334 | R-CHIP;RH C1608 CS 334-J | |
| R678 | 61079-917-273 | R-CHIP;RH C2012 CS 273-J | |
| R679 | 61079-918-473 | R-CHIP;RH C1608 CS 473-J | |
| R681 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| S501 | B3000-0033 | SW-PUSH;2C2P 2MM ML SH SPVC2-1 T | |
| S502 | B3000-0033 | SW-PUSH;2C2P 2MM ML SH SPVC2-1 T | |
| S503 | 63519-105-102 | SW-TACT.CHIP;SKHMPT017A | |
| S504 | 63519-105-102 | SW-TACT.CHIP;SKHMPT017A | |
| S505 | B3018-0025 | SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY | |
| S506 | B3018-0025 | SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY | |
| S507 | B3018-0025 | SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY | |
| S508 | B3018-0025 | SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY | |
| S509 | 63519-105-101 | SW-TACT.CHIP;SKHMPS066A | |
| S510 | 63519-105-101 | SW-TACT.CHIP;SKHMPS066A | |
| S511 | 63519-105-101 | SW-TACT.CHIP;SKHMPS066A | |
| S512 | 63519-105-101 | SW-TACT.CHIP;SKHMPS066A | |
| S513 | 63519-103-105 | SW-SLIDE;HSW0882-01-020 | |
| S514 | B3012-0009 | SW-ROTARY;SRBQ09 | |
| VR501 | B1056-0046 | VR-SEMI CHIP;EVM1SSX50B15 100KB CERMET | |
| VR503 | B1056-0053 | VR-SEMI CHIP;EVM1SSX50B55 500KB CERMET | |
| X501 | 64539-021-010 | CRYSTAL;P-3(32.768KHZ) | |
| X502 | B1280-0112 | CRYSTAL;11.718750MHZ HC-49/U-S 50PPM | |
| **151** | **69063-214-487** | **ASSY CAM CCD BOARD;VP-U10 PAL** | |
| CD01 | A1106-0155 | C-TANTALUM,CHIP;SCS0J 476MR-C(6.3V/47U) | |
| CD02 | A1106-0025 | C-TANTALUM,CHIP;CS 20V T 105-M C3216 SCS1D 105MR-A | |
| CD03 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD04 | A1106-0111 | C-TANTALUM,CHIP;CS 35V T 105-M C3528 SCN1V 105MR-B | |
| CD05 | A1106-0029 | C-TANTALUM,CHIP;CS 20V T 106-M C6032 SCS1D 106MR-C | |
| CD06 | 61454-243-102 | C-ELEC.CHIP;ECE-V1EA100P | |
| CD07 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD08 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD09 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |

| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| CD10 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD11 | 61454-243-471 | C-ELEC.CHIP;ECE-V0JA470P | |
| CD12 | A1106-0153 | C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U) | |
| CD13 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CD14 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CD15 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD16 | 61454-153-330 | C-CERAMIC CHIP;C1608 CH1H330JT | |
| CD17 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CD18 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CD19 | A1106-0150 | C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U) | |
| CD20 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD21 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD22 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CD23 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CD24 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| CD25 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| CD26 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD27 | 61454-153-100 | C-CERAMIC CHIP;C1608 CH1H100DT | |
| CD28 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CD29 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD30 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| CD31 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CD32 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CD33 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| CD34 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD35 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD36 | 61454-154-472 | C-CERAMIC CHIP;C1608 JB1H 472KT | |
| CD37 | 61454-154-472 | C-CERAMIC CHIP;C1608 JB1H 472KT | |
| CD38 | 61454-154-472 | C-CERAMIC CHIP;C1608 JB1H 472KT | |
| CD39 | A1106-0016 | C-TANTALUM.CHIP;SCS1A 106MR-B(10V/10U) | |
| CD40 | A1106-0150 | C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U) | |
| CD41 | 61454-154-332 | C-CERAMIC CHIP;C1608 B1H 332KT | |
| CD42 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD43 | A1106-0153 | C-TANTALUM,CHIP;SCS0J 106MR-A(6.3V/10U) | |
| CD44 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| CD45 | A1100-0675 | C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012 | |
| CD46 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD47 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD48 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| CD49 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD50 | A1106-0150 | C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U) | |
| CD51 | 61454-154-222 | C-CERAMIC CHIP;1608 B1H 222KT | |
| CD52 | 61454-154-472 | C-CERAMIC CHIP;C1608 JB1H 472KT | |
| CD53 | 61454-153-200 | C-CERAMIC CHIP;C1608 CH1H200JT | |
| CD54 | 61453-131-105 | C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG | |
| CD55 | 61454-153-820 | C-CERAMIC CHIP;C1608 CH1H820JT | |
| CD56 | A1106-0150 | C-TANTALUM,CHIP;SCS0J 226MR-B(6.3V/22U) | |
| CD57 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CD58 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CND01 | B6010-0771 | CONNECTOR-WAFER;53047-0410 WHT | |
| CND02 | B6010-0906 | CONNECTOR-FPC;04-6214-022-010-800 WHT | |
| CND03 | B6012-0226 | CONNECTOR-HOUSING;52357-3091 WHT | |
| CND04 | B6012-0226 | CONNECTOR-HOUSING;52357-3091 WHT | |
| DD01 | 62169-901-076 | DIODE.CHIP;MA141WA-(TX) | |
| DD02 | B4112-0020 | DIODE-SCHOTTKY,CHIP;MA721WA 30V 200MA 30PF T | |
| DD03 | B4112-0020 | DIODE-SCHOTTKY,CHIP;MA721WA 30V 200MA 30PF T | |
| FD01 | A1242-0009 | FILTER-LC,CHIP;EQ G355ENK-K5159=P3 100M T DELAY 10 | |
| ICD01 | B4014-0053 | IC-CCD;ICX055-AK DIP | |
| ICD02 | 62119-701-134 | IC-FP;KS7220-REEL | |
| ICD03 | A4008-1069 | IC;KA7302 SOP | |
| ICD04 | A4012-0192 | IC-LINEAR;KAD0228 SOP | |
| ICD05 | B4004-0041 | IC-LOGIC;TB6504F SOP | |
| ICD06 | 62119-402-030 | IC-FP;NJM3414M(TE3) | |
| ICD07 | 62119-701-047 | IC-FP;NJM2902M(TE2) | |
| LD01 | B1160-0009 | INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225 | |
| LD02 | B1160-0009 | INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225 | |

| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| LD03 | B1160-0009 | INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225 | |
| LD04 | B1160-0011 | INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225 | |
| LD05 | B1160-0009 | INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225 | |
| LD06 | 62429-960-831 | INDUCTOR.CHIP;LQH3N 330-K | |
| LD07 | B1160-0035 | INDUCTOR,CHIP;100UH-J 73 NL252018T-101J C2520 | |
| LD09 | B1160-0011 | INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225 | |
| LD10 | B1160-0031 | INDUCTOR,CHIP;22UH-J 73 NL252018T-220J C2520 | |
| QD01 | 62139-601-657 | FET;2SK 300-3(T7) | |
| QD02 | B4050-0088 | TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP | |
| QD03 | A4060-0040 | TR-W/RESISTOR;DTC143TU 200MW 100MA 50V SI/NPN T | |
| QD04 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QD05 | A4050-0104 | TR-GENERAL,CHIP;2SA 1179 | |
| QD06 | 62129-303-006 | TRANSISTOR-CHIP;IMX1 | |
| QD07 | B4050-0088 | TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP | |
| QD08 | B4050-0067 | TR-GENERAL,CHIP;IMT1 1MA 5MA 20KHZ 5V SI/PNP | |
| QD09 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QD10 | 62129-303-006 | TRANSISTOR-CHIP;IMX1 | |
| QD11 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| QD12 | 62129-303-006 | TRANSISTOR-CHIP;IMX1 | |
| QD13 | A4050-0104 | TR-GENERAL,CHIP;2SA 1179 | |
| QD14 | B4050-0088 | TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP | |
| QD15 | 62129-301-071 | TRANSISTOR.CHIP;DTC 144WK(TF96) | |
| QD16 | 62129-301-071 | TRANSISTOR.CHIP;DTC 144WK(TF96) | |
| RD01 | 61079-918-821 | R-CHIP;RH C1608 CS 821-J | |
| RD02 | 61079-918-184 | R-CHIP;RH C1608 CS 184-J | |
| RD03 | 61079-918-273 | R-CHIP;RH C1608 CS 273-J | |
| RD04 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| RD05 | 61079-918-392 | R-CHIP;RH C1608 CS 392-J | |
| RD06 | 61079-918-123 | R-CHIP;RH C1608 CS 123-J | |
| RD07 | 61079-918-105 | R-CHIP;RH C1608 CS 105-J | |
| RD08 | 61079-918-332 | R-CHIP;RH C1608 CS 332-J | |
| RD09 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| RD10 | 61079-918-123 | R-CHIP;RH C1608 CS 123-J | |
| RD11 | 61079-918-273 | R-CHIP;RH C1608 CS 273-J | |
| RD12 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| RD13 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| RD14 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| RD15 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| RD16 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| RD17 | 61079-918-332 | R-CHIP;RH C1608 CS 332-J | |
| RD18 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| RD19 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| RD20 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| RD21 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| RD22 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| RD23 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| RD24 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| RD25 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| RD26 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| RD27 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| RD28 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| RD29 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| RD30 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| RD31 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| RD32 | 61079-918-100 | R-CHIP;RH C1608 CS 100-J | |
| RD33 | 61079-918-100 | R-CHIP;RH C1608 CS 100-J | |
| RD34 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| RD35 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| RD36 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| RD37 | 61079-918-100 | R-CHIP;RH C1608 CS 100-J | |
| RD38 | 61079-918-100 | R-CHIP;RH C1608 CS 100-J | |
| RD39 | 61079-918-100 | R-CHIP;RH C1608 CS 100-J | |
| RD40 | 61079-918-100 | R-CHIP;RH C1608 CS 100-J | |
| RD41 | 61079-918-274 | R-CHIP;RH C1608 CS 274-J | |
| RD42 | 61079-918-683 | R-CHIP;RH C1608 CS 683-J | |
| RD43 | 61079-918-153 | R-CHIP;RH C1608 CS 153-J | |

| Loce.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| CP25 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| CP26 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CP27 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CP28 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V | |
| CP29 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| CP30 | 61454-153-200 | C-CERAMIC CHIP;C1608 CH1H200JT | |
| CP31 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| CP32 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V | |
| CP33 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| CP34 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CP35 | 61454-153-151 | C-CERAMIC CHIP;C1608 CH1H151JT | |
| CP36 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V | |
| CP37 | 61454-154-472 | C-CERAMIC CHIP;C1608 JB1H 472KT | |
| CP38 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CP39 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| CP40 | 61454-154-102 | C-CERAMIC CHIP;C1608 B1H 102KT | |
| CP41 | 61454-153-100 | C-CERAMIC CHIP;C1608 CH1H100DT | |
| CP42 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CP43 | 61454-153-100 | C-CERAMIC CHIP;C1608 CH1H100DT | |
| CP44 | 61454-153-200 | C-CERAMIC CHIP;C1608 CH1H200JT | |
| CP51 | 61454-153-220 | C-CERAMIC CHIP;C1608 CH1H220JT | |
| CTP01 | B1111-0025 | C-TRIMMER,CERA;TZCO3P00A110 CTA 30-6.5PF | |
| CTP02 | B1111-0025 | C-TRIMMER,CERA;TZCO3P00A110 CTA 30-6.5PF | |
| DP01 | A4112-0007 | DIODE-SCHOTTKY,CHIP;SB01-05CP-(TB) 550V 2A 4.4PF | |
| DP02 | 62169-102-054 | DIODE-SHOTTKY.CHIP;E10QS03-TE12R | |
| DP03 | 62169-901-030 | DIODE.CHIP;MA141WK-(TX) | |
| DP04 | 62169-901-077 | DIODE.CHIP;MA110-(TX) | |
| DP05 | B4112-0020 | DIODE-SCHOTTKY,CHIP;MA721WA 30V 200MA 30PF T | |
| DP06 | B4112-0020 | DIODE-SCHOTTKY,CHIP;MA721WA 30V 200MA 30PF T | |
| DP07 | 62169-901-077 | DIODE.CHIP;MA110-(TX) | |
| DP08 | 62169-901-068 | DIODE.CHIP;MA341-(TX) | |
| DP10 | 62169-901-077 | DIODE.CHIP;MA110-(TX) | |
| FP01 | A1242-0014 | FILTER-LC,CHIP;LP TH355LSK-K5165 5M T | |
| ICP01 | A4004-0187 | IC-LOGIC;KS7301 VQFP | |
| ICP02 | A4004-0873 | IC-LOGIC;KDA0408 VQFP | |
| ICP03 | B4004-0041 | IC-LOGIC;TB6504F SOP | |
| ICP04 | B4008-0983 | IC;MB88346B VSOP | |
| ICP05 | B4000-0053 | IC-EEPROM;X24C01S-C7519 SOP | |
| ICP06 | 67199-0079-00 | IC-FP;UPD78P214GC-AB8 OTP | |
| ICP07 | 62119-701-094 | IC-FP;TC74HC132AF(EL) | |
| ICP08 | B4004-0340 | IC-LOGIC;TC7W04FU-TE12L SOP TAPE 8P | |
| LP01 | B1160-0011 | INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225 | |
| LP03 | B1160-0009 | INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225 | |
| LP04 | B1160-0009 | INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225 | |
| LP05 | B1160-0055 | INDUCTOR,CHIP;68UH-J 73 NL252018T-680J C2520 | |
| LP06 | B1160-0011 | INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225 | |
| QP01 | A4050-0104 | TR-GENERAL,CHIP;2SA 1179 | |
| QP02 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QP03 | A4050-0104 | TR-GENERAL,CHIP;2SA 1179 | |
| QP04 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| QP05 | 62129-303-011 | TRANSISTOR-CHIP;DTA144EU(T106) | |
| QP06 | 62129-303-012 | TRANSISTOR-CHIP;DTC144EU(T106) | |
| QP07 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QP08 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QP09 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QP10 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QP11 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QP12 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QP13 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QP14 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QP15 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QP16 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| QP17 | 62129-301-117 | TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA | |
| RP01 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| RP02 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| RP03 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |

| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| RD44 | 61079-918-153 | R-CHIP;RH C1608 CS 153-J | |
| RD45 | A1020-0404 | R-CHIP;RH 1/10 CS 5R1-J C2012 MCR/RMC | |
| RD46 | 61079-918-333 | R-CHIP;RH C1608 CS 333-J | |
| RD47 | 61079-918-333 | R-CHIP;RH C1608 CS 333-J | |
| RD48 | 61079-918-183 | R-CHIP;RH C1608 CS 183-J | |
| RD49 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| RD50 | 61079-918-122 | R-CHIP;RH C1608 CS 122-J | |
| RD51 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| RD52 | 61079-918-273 | R-CHIP;RH C1608 CS 273-J | |
| RD53 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| RD54 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| RD55 | A1020-0619 | R-CHIP;RH 1/16 CS 223-F C1608 | |
| RD56 | A1020-0636 | R-CHIP;RH 1/16 CS 333-F C1608 | |
| RD57 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| RD58 | 61079-918-333 | R-CHIP;RH C1608 CS 333-J | |
| RD59 | 61079-918-273 | R-CHIP;RH C1608 CS 273-J | |
| RD60 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| RD61 | 61079-918-682 | R-CHIP;RH C1608 CS 682-J | |
| RD62 | 61079-918-221 | R-CHIP;RH C1608 CS 221-J | |
| RD63 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| RD64 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| RD65 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| RD66 | 61079-918-105 | R-CHIP;RH C1608 CS 105-J | |
| RD67 | 61079-918-563 | R-CHIP;RH C1608 CS 563-J | |
| RD68 | 61079-918-391 | R-CHIP;RH C1608 CS 391-J | |
| RD69 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| RD70 | 61079-918-000 | R-CHIP;RH C1608 CS 000-J | |
| RD71 | 61079-918-104 | R-CHIP;RH C1608 CS 104-J | |
| RD72 | 61079-918-563 | R-CHIP;RH C1608 CS 563-J | |
| RD73 | 61079-918-391 | R-CHIP;RH C1608 CS 391-J | |
| RD74 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| RD75 | A1020-0404 | R-CHIP;RH 1/10 CS 5R1-J C2012 MCR/RMC | |
| RD76 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| RD77 | 61079-917-000 | R-CHIP;RH C2012 CS 000-J | |
| RD78 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| RD79 | 61079-918-472 | R-CHIP;RH C1608 CS 472-J | |
| RD80 | 61079-917-100 | R-CHIP;RH C2012 CS 100-J | |
| **152** | **69063-214-488** | **ASSY PROCESS BOARD;VP-U10 PAL** | |
| BP01 | A1247-0031 | FILTER-EMI BEAD;FI 24OHM-100V -25/85 EF-CB-321611 | |
| CNP01 | B6010-0772 | CONNECTOR-WAFER;53264-3092 WHT | |
| CNP02 | B6010-0772 | CONNECTOR-WAFER;53264-3092 WHT | |
| CNP03 | B6010-0895 | CONNECTOR-WAFER;IL-WXA-30P-HF-E1000 WHT | |
| CP01 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CP02 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CP03 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CP04 | 61454-153-220 | C-CERAMIC CHIP;C1608 CH1H220JT | |
| CP05 | 61454-158-473 | C-CERAMIC CHIP;C1608 JB1C 473KT | |
| CP06 | 61454-154-103 | C-CERAMIC CHIP;C1608 B1H 103KT | |
| CP07 | 61454-243-471 | C-ELEC.CHIP;ECE-V0JA470P | |
| CP08 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V | |
| CP09 | 61454-154-392 | C-CERAMIC CHIP;C1608 B1H 392KT | |
| CP10 | 61454-154-472 | C-CERAMIC CHIP;C1608 JB1H 472KT | |
| CP11 | 61454-154-472 | C-CERAMIC CHIP;C1608 JB1H 472KT | |
| CP12 | 61454-154-472 | C-CERAMIC CHIP;C1608 JB1H 472KT | |
| CP13 | 61454-244-471 | C-ELEC.CHIP;ECE-V1CA470P | |
| CP14 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CP15 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CP16 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CP17 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CP18 | 61454-153-220 | C-CERAMIC CHIP;C1608 CH1H220JT | |
| CP19 | 61454-153-470 | C-CERAMIC CHIP;C1608 CH1H470JT | |
| CP20 | 61619-908-011 | C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V | |
| CP21 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CP22 | 61454-243-221 | C-ELEC.CHIP;ECE-V0JA220R | |
| CP23 | 61454-153-470 | C-CERAMIC CHIP;C1608 CH1H470JT | |
| CP24 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |

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|---|---|---|---|
| RP04 | 61079-918-103 | R-CHIP,RH C1608 CS 103-J | |
| RP05 | 61079-918-473 | R-CHIP,RH C1608 CS 473-J | |
| RP06 | 61079-918-473 | R-CHIP,RH C1608 CS 473-J | |
| RP07 | 61079-918-104 | R-CHIP,RH C1608 CS 104-J | |
| RP08 | 61079-918-104 | R-CHIP,RH C1608 CS 104-J | |
| RP09 | 61079-918-104 | R-CHIP,RH C1608 CS 104-J | |
| RP10 | A1020-0569 | R-CHIP,RH 1/10 CS 7R5-J C2012 RMC 1/10 7.5-J | |
| RP11 | A1020-0569 | R-CHIP,RH 1/10 CS 7R5-J C2012 RMC 1/10 7.5-J | |
| RP12 | 61079-918-103 | R-CHIP,RH C1608 CS 103-J | |
| RP13 | 61079-918-103 | R-CHIP,RH C1608 CS 103-J | |
| RP14 | 61079-918-102 | R-CHIP,RH C1608 CS 102-J | |
| RP15 | 61079-918-153 | R-CHIP,RH C1608 CS 153-J | |
| RP16 | 61079-918-682 | R-CHIP,RH C1608 CS 682-J | |
| RP17 | 61079-918-104 | R-CHIP,RH C1608 CS 104-J | |
| RP18 | 61079-918-104 | R-CHIP,RH C1608 CS 104-J | |
| RP19 | 61079-918-104 | R-CHIP,RH C1608 CS 104-J | |
| RP20 | 61079-918-102 | R-CHIP,RH C1608 CS 102-J | |
| RP21 | 61079-918-102 | R-CHIP,RH C1608 CS 102-J | |
| RP23 | 61079-918-102 | R-CHIP,RH C1608 CS 102-J | |
| RP24 | 61079-918-102 | R-CHIP,RH C1608 CS 102-J | |
| RP25 | 61079-918-102 | R-CHIP,RH C1608 CS 102-J | |
| RP26 | 61079-918-104 | R-CHIP,RH C1608 CS 104-J | |
| RP27 | 61079-918-102 | R-CHIP,RH C1608 CS 102-J | |
| RP28 | 61079-918-102 | R-CHIP,RH C1608 CS 102-J | |
| RP29 | 61079-918-332 | R-CHIP,RH C1608 CS 332-J | |
| RP30 | 61079-918-333 | R-CHIP,RH C1608 CS 333-J | |
| RP31 | 61079-918-333 | R-CHIP,RH C1608 CS 333-J | |
| RP32 | 61079-918-102 | R-CHIP,RH C1608 CS 102-J | |
| RP33 | 61079-918-242 | R-CHIP,RH C1608 CS 242-J | |
| RP34 | A1020-0617 | R-CHIP,RH 1/16 CS 221-F C1608 | |
| RP35 | A1020-0591 | R-CHIP,RH 1/16 CS 102-F C1608 | |
| RP36 | 61079-918-333 | R-CHIP,RH C1608 CS 333-J | |
| RP37 | 61079-918-153 | R-CHIP,RH C1608 CS 153-J | |
| RP38 | 61079-918-472 | R-CHIP,RH C1608 CS 472-J | |
| RP39 | A1020-0641 | R-CHIP,RH 1/16 CS 391-F C1608 | |
| RP40 | A1020-0650 | R-CHIP,RH 1/16 CS 471-F C1608 | |
| RP41 | A1020-0650 | R-CHIP,RH 1/16 CS 471-F C1608 | |
| RP42 | A1020-0603 | R-CHIP,RH 1/16 CS 152-F C1608 | |
| RP43 | A1020-0607 | R-CHIP,RH 1/16 CS 162-F C1608 | |
| RP44 | A1020-0454 | R-CHIP,RH 1/16 CS 511-J C1608 RMC 1/16 510-J | |
| RP45 | 61079-918-750 | R-CHIP,RH C1608 CS 750-J | |
| RP46 | 61079-918-102 | R-CHIP,RH C1608 CS 102-J | |
| RP47 | A1020-0627 | R-CHIP,RH 1/16 CS 273-F C1608 | |
| RP48 | A1020-0618 | R-CHIP,RH 1/16 CS 222-F C1608 | |
| RP49 | A1020-0591 | R-CHIP,RH 1/16 CS 102-F C1608 | |
| RP50 | 61079-918-472 | R-CHIP,RH C1608 CS 472-J | |
| RP51 | A1020-0641 | R-CHIP,RH 1/16 CS 391-F C1608 | |
| RP52 | A1020-0650 | R-CHIP,RH 1/16 CS 471-F C1608 | |
| RP53 | A1020-0591 | R-CHIP,RH 1/16 CS 102-F C1608 | |
| RP54 | A1020-0607 | R-CHIP,RH 1/16 CS 162-F C1608 | |
| RP55 | A1020-0618 | R-CHIP,RH 1/16 CS 222-F C1608 | |
| RP56 | A1020-0454 | R-CHIP,RH 1/16 CS 511-J C1608 RMC 1/16 510-J | |
| RP57 | 61079-918-242 | R-CHIP,RH C1608 CS 242-J | |
| RP58 | A1020-0591 | R-CHIP,RH 1/16 CS 102-F C1608 | |
| RP59 | A1020-0597 | R-CHIP,RH 1/16 CS 122-F C1608 | |
| RP60 | 61079-918-472 | R-CHIP,RH C1608 CS 472-J | |
| RP61 | 61079-918-104 | R-CHIP,RH C1608 CS 104-J | |
| RP62 | 61079-918-101 | R-CHIP,RH C1608 CS 101-J | |
| RP63 | 61079-918-101 | R-CHIP,RH C1608 CS 101-J | |
| RP64 | 61079-917-100 | R-CHIP,RH C2012 CS 100-J | |
| RP65 | 61079-917-100 | R-CHIP,RH C2012 CS 100-J | |
| RP66 | 61079-918-000 | R-CHIP,RH C1608 CS 000-J | |
| RP67 | 61079-918-472 | R-CHIP,RH C1608 CS 472-J | |
| RP68 | 61079-918-682 | R-CHIP,RH C1608 CS 682-J | |
| RP69 | 61079-918-101 | R-CHIP,RH C1608 CS 101-J | |
| RP71 | 61079-918-101 | R-CHIP,RH C1608 CS 101-J | |

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|---|---|---|---|
| RP72 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| RP73 | 61079-918-100 | R-CHIP;RH C1608 CS 100-J | |
| RP74 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| RP89 | 61079-917-100 | R-CHIP;RH C2012 CS 100-J | |
| RP91 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| RP92 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| RP93 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| RP94 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| RP95 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| RP96 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| RP97 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| RP98 | 61079-918-471 | R-CHIP;RH C1608 CS 471-J | |
| RP99 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| XP01 | B1280-0144 | CRYSTAL;28.375MHZ CX-49F 30PPM CHIP TAPING | |
| XP02 | B1280-0111 | CRYSTAL;12MHZ CX-49F 100PPM CHIP | |
| XP03 | B1280-0110 | CRYSTAL;17.734476MHZ CX-49F 100PPM CHIP | |
| **177** | **69063-214-223** | **ASSY EVF BOARD;VP-U12 PAL** | |
| CE01 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CE02 | A1106-0155 | C-TANTALUM,CHIP;SCS0J 476MR-C(6.3V/47U) | |
| CE03 | 61454-155-223 | C-CERAMIC CHIP;C1608 JB1C 223KT | |
| CE04 | A1106-0051 | C-TANTALUM,CHIP;CS 6.3V T 225-M C3216 SCN0J 225MR | |
| CE05 | B1102-0156 | C-FILM,CHIP;CQS 162 M 16V T 104-J ECWU1C104JA5 | |
| CE07 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CE08 | 61454-159-104 | C-CERAMIC CHIP;C1608 F1E 104T-Z | |
| CE09 | A1106-0028 | C-TANTALUM,CHIP;CS 20V T 475-M C3528 SCS1D 475MR-B | |
| CE10 | A1106-0127 | C-TANTALUM,CHIP;CS 6.3V T 107-M C7343 | |
| CE11 | A1106-0127 | C-TANTALUM,CHIP;CS 6.3V T 107-M C7343 | |
| CE12 | 61507-121-251 | C-POLYESTER;CQ921M TAPG 50V 272-J | |
| CE13 | A1106-0018 | C-TANTALUM,CHIP;CS 10V T 476-M C7343 SCS1A 476MR-D | |
| CE14 | 61407-100-331 | C-CERAMIC;EK B 3A 331K 06 BS | |
| CE15 | 61454-246-293 | C-ELEC.CHIP;ECE-V1HA3R3R | |
| CE16 | 61407-100-151 | C-CERAMIC;EK B 3A 151K 06 BS | |
| CE17 | 61454-153-820 | C-CERAMIC CHIP;C1608 CH1H820JT | |
| CE18 | B1100-0630 | C-CERAMIC,CHIP;GRM40 Y5V 105Z 16 | |
| CE19 | 61453-131-105 | C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG | |
| CNE01 | B6010-0871 | CONNECTOR-WAFER;53398-0590 WHT | |
| CNE02 | A3047-0005 | SOCKET-CRT;SOCKET FINDER PI10 50MM | |
| CNE03 | 63349-900-009 | CONNECTOR;CGP1602-0101 | |
| CNE04 | 63349-900-009 | CONNECTOR;CGP1602-0101 | |
| DE01 | 62169-901-043 | DIODE.CHIP;MA151K-(TX) | |
| DE02 | B4100-0033 | DIODE-SW,CHIP;MA158-TX 200V 10NS T | |
| FBT01 | 62139-602-012 | FBT;ECX-C2806A | |
| ICE01 | 62119-121-049 | IC-FP;AN2512S-(E2) | |
| LE01 | B1160-0036 | INDUCTOR-CHIP;NL322522T 121-J | |
| LE02 | B1160-0011 | INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225 | |
| LE03 | 62429-014-304 | COIL-LINEARITY;ELH-5L218 | |
| LED01 | 62309-110-340 | LED;GL-3HD7/GL3HD8 | |
| QE01 | 62129-301-172 | TRANSISTOR.CHIP;2SD 968A-R/S(TX) | |
| QE02 | A4050-0104 | TR-GENERAL,CHIP;2SA 1179 | |
| QE03 | A4050-0104 | TR-GENERAL,CHIP;2SA 1179 | |
| RE01 | 61079-918-105 | R-CHIP;RH C1608 CS 105-J | |
| RE02 | 61079-917-338 | R-CHIP;RH C2012 CS 330-J | |
| RE03 | 61079-918-152 | R-CHIP;RH C1608 CS 152-J | |
| RE04 | 61079-918-474 | R-CHIP;RH C1608 CS 474-J | |
| RE05 | 61079-918-823 | R-CHIP;RH C1608 CS 823-J | |
| RE06 | 61079-918-393 | R-CHIP;RH C1608 CS 393-J | |
| RE07 | 61079-918-399 | R-CHIP;RH C1608 CS 3R9-J | |
| RE08 | 61079-918-101 | R-CHIP;RH C1608 CS 101-J | |
| RE09 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| RE10 | 61079-918-681 | R-CHIP;RH C1608 CS 681-J | |
| RE11 | 61079-918-221 | R-CHIP;RH C1608 CS 221-J | |
| RE12 | 61079-918-751 | R-CHIP;RH C1608 CS 751-J | |
| RE13 | 61079-918-122 | R-CHIP;RH C1608 CS 122-J | |
| RE14 | 61079-918-102 | R-CHIP;RH C1608 CS 102-J | |
| RE15 | 61079-918-684 | R-CHIP;RH C1608 CS 684-J | |
| RE16 | 61079-918-623 | R-CHIP;RH C1608 CS 623-J | |

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|---|---|---|---|
| RE17 | 61079-918-103 | R-CHIP;RH C1608 CS 103-J | |
| RE18 | 61079-918-182 | R-CHIP;RH C1608 CS 182-J | |
| RE19 | 61079-918-391 | R-CHIP;RH C1608 CS 391-J | |
| RE21 | 61079-918-474 | R-CHIP;RH C1608 CS 474-J | |
| RE22 | 61079-918-105 | R-CHIP;RH C1608 CS 105-J | |
| RE23 | 61079-917-000 | R-CHIP;RH C2012 CS 000-J | |
| RE24 | 61079-917-104 | R-CHIP;RH C2012 CS 104-J | |
| RE25 | 61079-917-225 | R-CHIP;RH C2012 CS 225-J | |
| RE26 | 61079-917-155 | R-CHIP;RH C2012 CS 155-J | |
| RE27 | 61079-918-150 | R-CHIP;RH C1608 CS 150-J | |
| RE28 | 61079-918-222 | R-CHIP;RH C1608 CS 222-J | |
| RTE01 | B1335-0002 | THERMISTOR-CHIP;NTC CS 3216 3BH 471KC 470OHM/20DEG | |
| VRE01 | B1056-0051 | VR-SEMI CHIP;EVM1SSX50B54 50KB CERMET | |
| VRE02 | B1056-0052 | VR-SEMI CHIP;EVM1SSX50B52 500B CERMET | |
| VRE03 | B1056-0064 | VR-SEMI CHIP;RVG4M58-205M-TG 2MB CERMET T TOP 1/4W | |
| VRE04 | B1056-0062 | VR-SEMI CHIP;EVM1DSX30B16 1MB CERMET | |
| VRE05 | B1056-0062 | VR-SEMI CHIP;EVM1DSX30B16 1MB CERMET | |
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## * ACCESSORIES

| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| | A7008-0039 | ADAPTER;AC90/264V 60HZ DC7.5V 1.5A FTZ/DEMCO CP2 | |
| | A6006-0086 | POWER-CORD;AP2 KKJ1004A/KJ0201 1.8MT BLK SOLDRING | |
| | | ASSY MAIN BOARD;AA-E1P/PAL | |
| B101 | 61509-144-520 | C-POLYESTER;ECQ-VIH104JZ3/24538104D | |
| B102 | 61637-208-229 | C-ELEC;CEAP 50V 2.2M SA (5X11) | |
| C101 | B1102-0193 | C-FILM;CQ 922 M 50V T 391-J ECQ-B1H 391J F3 | |
| C102 | 61509-121-560 | C-POLYESTER;CQ92IM 50V 124-K | |
| C103 | 61507-121-341 | C-POLYESTER;CQ921M TAPG 50V 102-J | |
| C104 | 61509-121-470 | C-POLYESTER;CQ921M 50V 103-K | |
| C105 | 61507-121-341 | C-POLYESTER;CQ921M TAPG 50V 102-J | |
| C106 | 61507-121-341 | C-POLYESTER;CQ921M TAPG 50V 102-J | |
| C107 | 61637-208-229 | C-ELEC;CEAP 50V 2.2M SA (5X11) | |
| C108 | 61509-144-520 | C-POLYESTER;ECQ-VIH104JZ3/24538104D | |
| C109 | 61647-708-010 | C-ELEC;CEAP 50V 1M SS(2.5) | |
| C110 | B4112-0006 | DIODE-SCHOTTKY;ERA22-10(1KV 0.5A) | |
| C111 | B4106-0049 | DIODE-ZENER;MTZ-20B | |
| C112 | B4112-0006 | DIODE-SCHOTTKY;ERA22-10(1KV 0.5A) | |
| C113 | B4112-0006 | DIODE-SCHOTTKY;ERA22-10(1KV 0.5A) | |
| C114 | 62169-406-482 | DIODE;1N4148 SAMSUNG | |
| C150 | A4106-0006 | ZENER DIODE;MTZ 4.7B | |
| C151 | 62169-403-836 | DIODE ZENER;UZ 24BH | |
| C152 | 62169-403-821 | DIODE-ZENER;MTZ 5.1B | |
| C153 | 62169-406-482 | DIODE;1N4148 SAMSUNG | |
| C154 | 62169-406-482 | DIODE;1N4148 SAMSUNG | |
| C155 | 61028-328-275 | R-COMPOSITION;RC 1/2 P 275-K/ERC12GK275 | |
| C156 | 61048-177-823 | R-CARBON;RD 1/8 T 823-J | |
| C157 | 61048-177-823 | R-CARBON;RD 1/8 T 823-J | |
| CN151 | 61048-177-823 | R-CARBON;RD 1/8 T 823-J | |
| D101 | 61048-177-221 | R-CARBON;RD 1/8 T 221-J | |
| D102 | 61048-177-330 | R-CARBON;RD 1/8 T 330-J | |
| D103 | 61048-177-330 | R-CARBON;RD 1/8 T 330-J | |
| D104 | 61048-177-155 | R-CARBON;RD 1/8 T 155-J | |
| D105 | 61048-177-822 | R-CARBON;RD 1/8 T 822-J | |
| D106 | 61048-177-823 | R-CARBON;RD 1/8 T 823-J | |
| D107 | 61048-177-272 | R-CARBON;RD 1/8 T 272-J | |
| D108 | 61048-277-100 | R-CARBON;RD 1/4 T 100-J | |
| D151 | 61048-177-681 | R-CARBON;RD 1/8 T 681-J | |
| D152 | 61048-177-272 | R-CARBON;RD 1/8 T 272-J | |
| D153 | 61048-177-911 | R-CARBON;RD 1/8 T 911-J | |
| D154 | 61048-177-222 | R-CARBON;RD 1/8 T 222-J | |
| D155 | 61048-177-104 | R-CARBON;RD 1/8 T 104-J | |
| F101 | 61048-177-472 | R-CARBON;RD 1/8 T 472-J | |
| F151 | 61048-177-472 | R-CARBON;RD 1/8 T 472-J | |
| IC101 | 61048-177-100 | R-CARBON;RD 1/8 T 100-J | |
| IC102 | 61048-177-221 | R-CARBON;RD 1/8 T 221-J | |
| IC151 | 61048-177-123 | R-CARBON;RD 1/8 T 123-J | |
| L101 | 61048-177-911 | R-CARBON;RD 1/8 T 911-J | |
| L151 | 61048-177-104 | R-CARBON;RD 1/8 T 104-J | |
| Q101 | 61048-177-621 | R-CARBON;RD 1/8 T 621-J | |
| Q151 | A1010-0012 | R-FUSIBLE;RF 1/2 P 4R7-J | |
| Q152 | 61048-177-103 | R-CARBON;RD 1/8 T 103-J | |
| Q153 | 61048-277-151 | R-CARBON;RD 1/4 T 151-J | |
| Q154 | 61048-177-103 | R-CARBON;RD 1/8 T 103-J | |
| R101 | B1054-0138 | VR-SEMI;KVSF637A-1/2W 1KB CARBON | |
| R102 | B1054-0139 | VR-SEMI;KVSF637A-1/2W 5KB CARBON | |
| R103 | 62429-014-337 | CHIP-FERRITE BEAD;HF50ACB322513-T | |
| R104 | 62429-014-337 | CHIP-FERRITE BEAD;HF50ACB322513-T | |
| R105 | B1102-0190 | C-FILM;ECQ-U2A 224MV | |
| R106 | A1100-0450 | C-CERAMIC;CK 45 B 400V 222-M CK45B500V222K | |
| R107 | A1100-0450 | C-CERAMIC;CK 45 B 400V 222-M CK45B500V222K | |
| R108 | A1100-0450 | C-CERAMIC;CK 45 B 400V 222-M CK45B500V222K | |
| R109 | A1100-0450 | C-CERAMIC;CK 45 B 400V 222-M CK45B500V222K | |
| R110 | B1104-0456 | C-ELEC;CE 04 W 400V 470-K ECA2GV 470Y | |
| R111 | A1102-0120 | C-FILM;TM2JRB 103K | |
| R112 | 61637-206-330 | C-ELEC;CEAP 35V 33M SA(6X11) | |
| R113 | 61637-508-101 | C-ELEC-CEAP 50V 100M SG(10X12.5) | |

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|---|---|---|---|
| R114 | 61637-504-102 | C-ELEC;CEAP 16V 1000M SG(10X20) | |
| R150 | A1104-0480 | C-ELEC;CE 04 F 16V T 471-M STX/KME -40/105 | |
| R151 | B6010-0337 | CONNECTOR WAFER;B8P-MQ WHT 8P | |
| R152 | B4104-0041 | DIODE-RECT;S1WBA60 600V 1A | |
| R153 | B4112-0002 | DIODE-SCHOTTKY;ESAC85M-009(90V 10A) | |
| R154 | 62169-501-064 | DIODE;1N5819(ERB 81-004)V | |
| R155 | A3065-0154 | FUSE;T1.25A 250V 51S 5X20MM SJ DOM | |
| R156 | B3065-0114 | FUSE-MICRO;FST 125V 2A 7.49MM L TR/MCR-2.0BUSS | |
| R157 | B4008-1002 | IC;FA5304 DIP | |
| R158 | B4010-0011 | IC;PC113(L) DIP | |
| R159 | 62109-103-330 | IC;LM358N | |
| R160 | A1151-0001 | COIL-LINE FILTER;BSF-2123 20MH 10OHM | |
| R161 | A1132-0008 | COIL-PEAKING;10UH-J RA EL0606RA-100J Q80 F22MHZ | |
| R162 | B4054-0018 | FET;2SK904 | |
| R163 | B4052-0027 | TR;2SB1127S | |
| R164 | A4056-0019 | TR-SWITCHING;2SD1207T 1W 150MHZ SI/NPN T | |
| R165 | B4060-0021 | TR;DTC114ES | |
| R166 | B4060-0021 | TR;DTC114ES | |
| R167 | B1012-0014 | R-WIRE;RW 2 P 3R3-K | |
| R168 | 61049-527-473 | R-METAL OXIDE;RS 2 P 473-J | |
| R169 | A1010-0004 | R-FUSIBLE;RF 1/2 P 010-J | |
| R170 | A1004-0220 | R-METAL OXIDE;RS 1 P R47-J | |
| T101 | A1004-0221 | R-METAL OXIDE;RS 1 P 0R1-J | |
| VR151 | 61049-327-101 | R-METAL OXIDE;RS 1 P 101-J | |
| VR152 | A1199-0020 | TRANS-POWER;EI25X19 AC90/260V 50HZ AC5.1V | |
| 45 | 69063-213-943 | ASSY SUB 1 BOARD;AA-E1 NTSC/PAL | |
| C158 | A1100-0005 | C-CERAMIC,CHIP;CK 73 Z5U 50V T 563-M C2012 21F-563 | |
| C159 | 61647-702-470 | C-ELEC;CEAP 6.3V 47M SS(2.5) | |
| C160 | 61454-143-473 | C-CERAMIC.CHIP;0805 5E 473ZAT MA | |
| C161 | A1100-0011 | C-CERAMIC,CHIP;CK 73 X7R 50V T 103-K C2012 21B103K | |
| C162 | 61647-708-010 | C-ELEC;CEAP 50V 1M SS(2.5) | |
| C163 | 61453-131-105 | C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG | |
| CN152 | B6010-0338 | CONNECTOR WAFER;08MQ-ST WHT 8P | |
| D156 | B4150-0044 | LED;SLB25MG | |
| D157 | B4106-0050 | DIODE-ZENER;MTZ-15B | |
| D158 | B4106-0050 | DIODE-ZENER;MTZ-15B | |
| D159 | 62169-901-042 | DIODE.CHIP;DAN202K | |
| D160 | B4150-0045 | LED;SLB25YY | |
| D161 | 62169-901-042 | DIODE.CHIP;DAN202K | |
| D162 | 62169-901-042 | DIODE.CHIP;DAN202K | |
| IC152 | 62109-201-410 | IC;KA78L05(T) | |
| IC153 | 62109-201-314 | IC;MB88211PF-166 | |
| J151 | 63335-501-007 | DC-JACK;HEC 0738-010010 | |
| L152 | A1130-0020 | COIL-CHOKE;100UH-J RA 1KHZ PI0.35 | |
| Q155 | B4060-0021 | TR;DTC114ES | |
| Q156 | 62129-101-140 | TRANSISTOR.CHIP;KSR 2104(REEL) | |
| Q157 | 62129-101-110 | TRANSISTOR.CHIP;KSR 1102 (REEL) | |
| R171 | 61079-917-391 | R-CHIP;RH C2012 CS 391-J | |
| R172 | 61079-917-472 | R-CHIP;RH C2012 CS 472-J | |
| R173 | 61079-917-103 | R-CHIP;RH C2012 CS 103-J | |
| R174 | 61079-917-223 | R-CHIP;RH C2012 CS 223-J | |
| R175 | 61079-917-102 | R-CHIP;RH C2012 CS 102-J | |
| R176 | 61079-917-391 | R-CHIP;RH C2012 CS 391-J | |
| R177 | 61079-917-561 | R-CHIP;RH C2012 CS 561-J | |
| R178 | 61079-917-273 | R-CHIP;RH C2012 CS 273-J | |
| R179 | 61079-917-183 | R-CHIP;RH C2012 CS 183-J | |
| R180 | 61079-917-243 | R-CHIP;RH C2012 CS 243-J | |
| R181 | 61079-917-561 | R-CHIP;RH C2012 CS 561-J | |
| R182 | 61079-917-821 | R-CHIP;RH C2012 CS 821-J | |
| SW151 | B3020-0008 | SW-MICRO;D2A-1210 | |
| X151 | B1283-0013 | RESONATOR-CERAMIC;4.0MHZ FCR4.0MCTB 3/CN D | |
| *********** | **************** | ******************************************** | ******** |

| NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| ITEM / BUYER | A/V CABLE | 8 mm VIDEO CASSETTE | LITHIUM BATTERY PACK | CABLE DC | UNIT REMOCON | BATTERY PACK | SHOULDER STRAP | JACK SCART | ADAPTER |
| AMF | 63054-402-040 | 63174-600-030 | 64539-502-105 | 66449-0029-00 | 67173-0182-04 | 67223-0015-02 | 67853-600-270 | A3040-0153 | A7008-0039 |
| DIN | 63054-402-040 | 63174-600-030 | 64539-502-105 | 66449-0029-00 | 67173-0182-04 | 67223-0015-02 | 67853-600-270 | A3040-0153 | A7008-0048 |
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| ERG | 63054-402-040 | 63174-600-030 | 64539-502-105 | 66449-0029-00 | 67173-0182-04 | 67223-0015-02 | 67853-600-270 | A3040-0153 | A7008-0039 |
| ETR | 63054-402-040 | 63174-600-030 | 64539-502-105 | 66449-0029-00 | 67173-0182-04 | 67223-0015-02 | 67853-600-270 | A3040-0153 | A7008-0039 |
| JUMA | 63054-402-040 | 63174-600-030 | 64539-502-105 | 66449-0029-00 | 67173-0182-04 | 67223-0015-02 | 67853-600-270 | - | A7008-0039 |
| NSI | 63054-402-040 | 63174-600-030 | 64539-502-105 | 66449-0029-00 | 67173-0182-04 | 67223-0015-02 | 67853-600-270 | A3040-0153 | A7008-0039 |
| RIE | 63054-402-040 | 63174-600-030 | 64539-502-105 | 66449-0029-00 | 67173-0182-04 | 67223-0015-02 | 67853-600-270 | A3040-0153 | A7008-0039 |
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| SECO | 63054-402-040 | 63174-600-030 | 64539-502-105 | 66449-0029-00 | 67173-0182-04 | 67223-0015-02 | 67853-600-270 | A3040-0153 | A7008-0039 |
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| SEUK | 63054-402-040 | 63174-600-030 | 64539-502-105 | 66449-0029-00 | 67173-0182-04 | 67223-0015-02 | 67853-600-270 | A3040-0153 | A7008-0045 |
| SIM | 63054-402-040 | 63174-600-030 | 64539-502-105 | 66449-0029-00 | 67173-0182-04 | 67223-0015-02 | 67853-600-270 | A3040-0153 | A7008-0039 |

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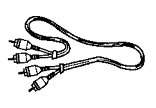
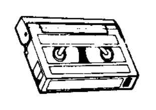
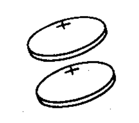
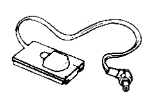
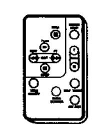
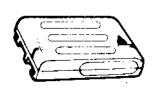
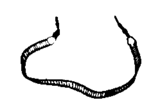
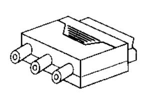
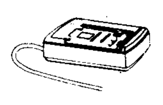
|  |  |  |  |  |  |  |  |  |

# 9. EXPLODED VIEW / PARTS LIST

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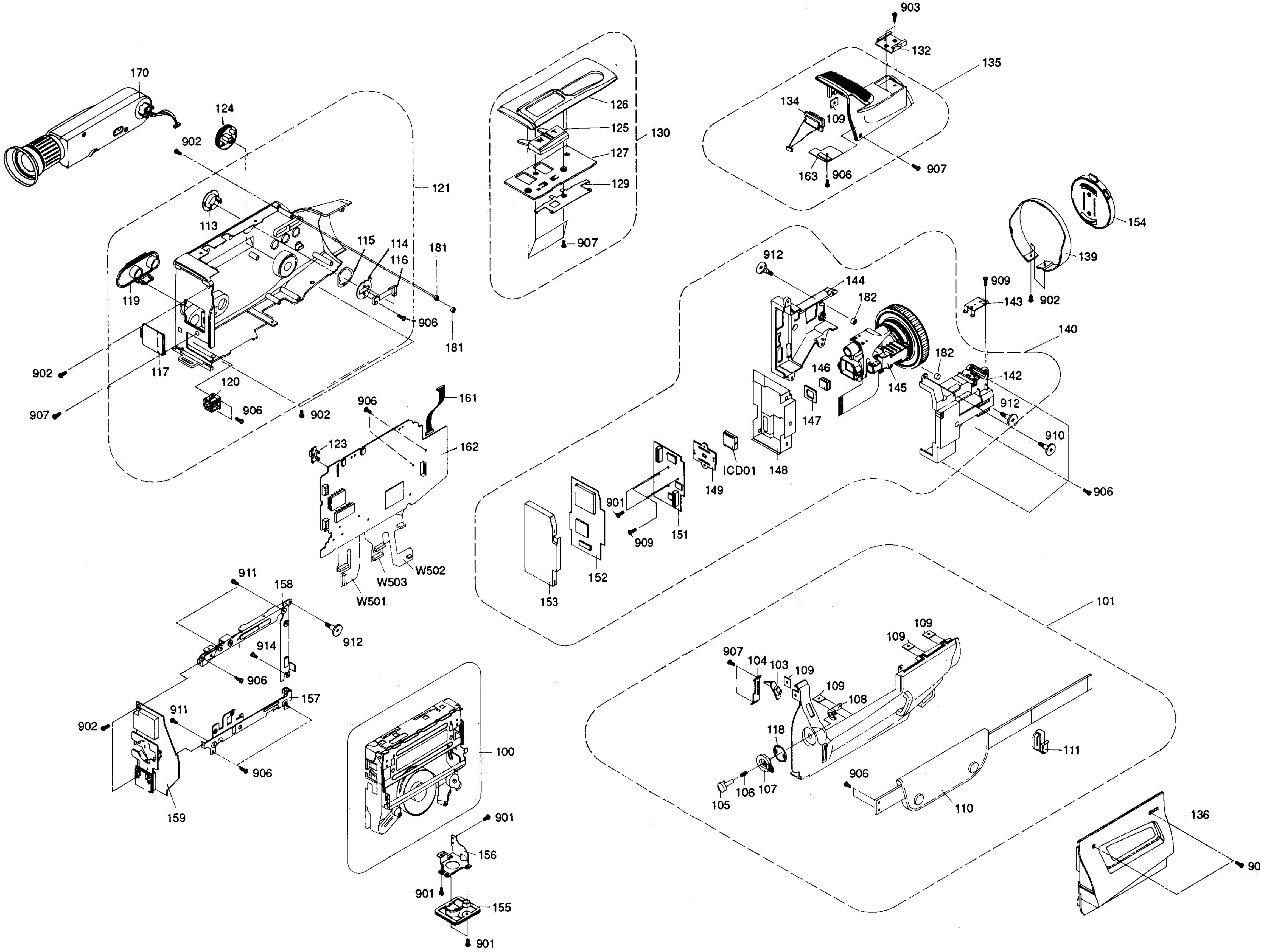
9-5. E.V.F -------------------------------- 9-7

9-6. ADAPTOR ---------------------------- 9-8

## 9-1. INSTRUMENT ASSEMBLY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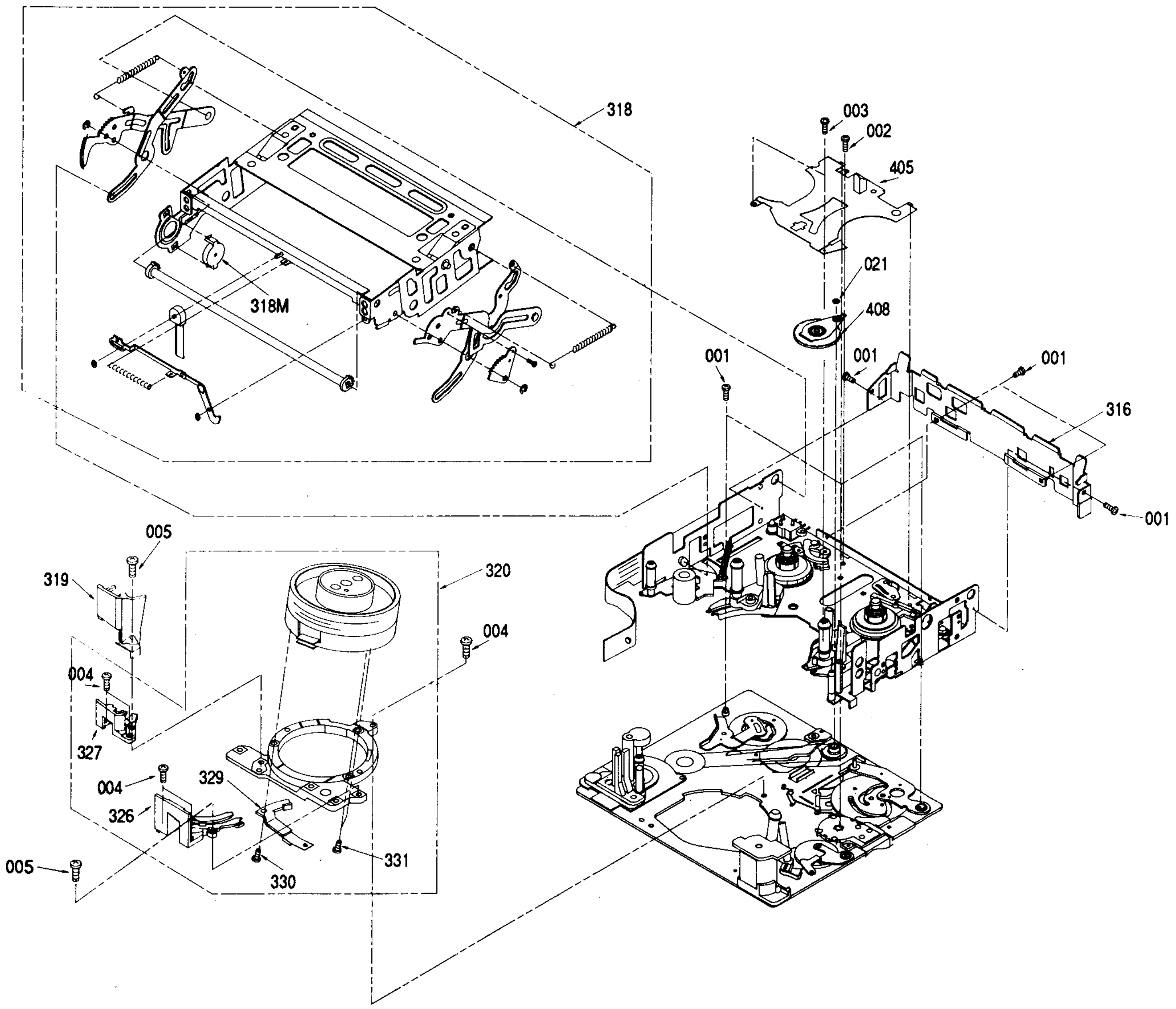
| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| 100 | DE-4UP | ASSY-COMPACT DECK;8MM PI40 3H'D PAL | |
| 101 | 69063-214-466 | ASSY-CASE RIGHT;VP-U12/SEG | |
| 103 | 64084-0378-00 | KNOB-TAPE EJECT;ABS94HB BLK VN-U12 | |
| 104 | 63014-0192-00 | BRACKET-TAPE EJECT;SECC T0.8 NTR VN-U12 | |
| 105 | 64084-0380-00 | BUTTON-REC START/STOP;ABS94HB RED VN-U12 | |
| 106 | 62724-0093-00 | SPRING-BUTTON;STS304 PI0.2 D3 VN-E405 | |
| 107 | 64084-0458-00 | KNOB-REC START/STOP;ABS94HB BLK VN-U12 | |
| 108 | 63323-0239-00 | HOLDER-REC START/STOP;POM BLK (VN-U12) | |
| 109 | 63324-0292-00 | HOLDER-LOCK;SECC NAT | |
| 110 | 67173-0178-01 | UNIT-BELT GRIP;LEATHER+PS VN-U12/SEA | |
| 111 | 63424-0001-00 | FASTENER-HAND GRIP;ABS94HB BLK T1.0 (VN-U12) | |
| 113 | 61644-0020-00 | SLIDER-RING ROTATE EVF;POM T1 BLK(VN-E405) | |
| 114 | 63014-0183-00 | BRACKET-EVF;STS304 T0.8 (VN-U12) | |
| 116 | 63014-0198-00 | BRACKET-SUPPORT EVF;STS-304H T0.3 (VN-U12) | |
| 117 | 63314-0123-00 | COVER-LI BATTERY;PP T1.5 BLK VN-U12 | |
| 118 | 62724-0181-00 | SPRING-PLATE START/STOP;PS STS301 T0.2 OD16 (VN-U1 | |
| 119 | 64044-0135-00 | DOOR-A/V JACK;PP T1.5 BLK VN-U12 | |
| 120 | 67173-0176-00 | UNIT-BATTERY EJECT;VN-U12 | |
| 121 | 69063-214-535 | ASSY-CASE LEFT;VP-U10/SEG | |
| | 69063-214-538 | ASSY-CASE LEFT;VP-U10/SEF | |
| | 69063-214-539 | ASSY-CASE LEFT;VP-U10/SEUK/SECO/SEI/SEAU/SEH/SEP/SES/SIM AMF/DIN/EDI/ELE/ERG/ETR/NSI/RIE | |
| 123 | 64084-0385-00 | KNOB-DATE/SELECT;ABS94HB BLK VN-U12 | |
| 124 | 64083-0387-00 | KNOB-ROTARY;ABS94HB BLK VN-U12 | |
| 125 | 64083-0381-00 | BUTTON-T/W;ABS94HB BLK VN-U12 | |
| 126 | 62032-0146-00 | CASE-TOP;ABS94HB T1.5 BLK (VN-U12) | |
| 127 | 63073-0028-00 | SUPPORTER-CASE TOP;POM T1.0 (VN-U12) | |
| 129 | 61554-0009-00 | LINK-CASE TOP;STS304 T0.3 L66 (VN-U12) | |
| 130 | 69063-214-286 | ASSY-CASE TOP;VN-U12 | |
| 132 | 63014-0145-00 | BRACKET-ACCESSORY SHOE;SBHG T0.8 BLK | |
| 134 | 69063-214-399 | ASSY MIC;VN-U12 MIC ASSY | |
| 135 | 69063-214-469 | ASSY-CASE FRONT;VP-U12/SEG | |
| 136 | 69063-214-468 | ASSY-COVER HOUSING;VP-U12/SEG | |
| 139 | 60574-0016-00 | RING-HOOD;ABS94HB ID57 OD59 BLK T1 VN-U10 | |
| 140 | CE-28R-U10 | ASSY CAMERA;VP-U10(PAL) | |
| 142 | 62212-0078-00 | FRAME-LENS(R);ABS94HB T1.5 BLK VN-U10 | |
| 143 | 63014-0203-00 | BRACKET-SUPPORT HOT SHOE;SECC T0.8 VN-U10 | |
| 144 | 62212-0079-00 | FRAME-LENS(L);ABS94HB T1.5 BLK VN-U10 | |
| 145 | 69063-214-410 | ASS'Y LENS ZOOM;8X INNER AF | |
| 146 | B1240-0046 | FILTER-LC;LP 2M SV-511B(OLPF) | |
| 147 | 63304-0008-00 | SPACER-CCD;SILICON | |
| 148 | 62073-0194-00 | SHIELD-CASE(CCD);SECC T0.25 NAT VN-U10 | |
| 149 | 63014-0177-00 | BRACKET-CCD;SBHG1 T1.2 | |
| 151 | 69063-214-487 | ASSY CAM CCD BOARD;VP-U10 PAL | |
| 152 | 69063-214-488 | ASSY PROCESS BOARD;VP-U10 PAL | |
| 153 | 62073-0185-00 | SHIELD-CASE PROCESSOR;SPTE T0.25 NAT VN-U12 | |
| 154 | 69063-214-407 | ASSY-CAP HOOD;VN-U10 | |
| 155 | 63323-0064-00 | HOLDER-TRIOD;ABS94HB+SUS T1.5 VN-E405 | |
| 156 | 63013-0187-00 | BRACKET-DECK(BOT);SECC T0.6 (VN-U12) | |
| 157 | 63012-0185-00 | BRACKET-DECK(B);SECC T0.8 (VN-U12) | |
| 158 | 63013-0184-00 | BRACKET-DECK(A);SECC T0.8 (VN-U12) | |
| 159 | 69063-214-186 | ASSY DC/DC BOARD;S8C-PAL VP-U12 VTR(DC/DC) | |
| 161 | 67179-0148-00 | UNIT-BATTERY TERMINAL;VN-U12 | |
| 162 | 69063-214-185 | ASSY MAIN BOARD;S8C-PAL VP-U12 VTR(SS,VID,AUD,FUN) | |
| 163 | 69063-214-187 | ASSY HOT SHOE BOARD;S8C-PAL VN-U12/BASIC | |
| 170 | *EE-U10-EXP | ASSY-EVF;S8C-PAL(VP-U10 EVF) | |
| 181 | 63394-0069-00 | RUBBER-CASE;IIR VN-U12 | |
| 182 | 63394-0065-00 | RUBBER-CUSHION;IIR VN-U12 | |
| 901 | 67094-120-230 | SCREW-BH;M2X3 FE FZB | |
| 902 | 67094-120-240 | SCREW-BH;M2X4 FE FZB | |
| 903 | 67018-120-047 | SCREW FH;3+M2X5 FE FZB | |
| 905 | 60504-0113-00 | SCREW-MACHINE;BH B 1.7X5.5 FE BLK | |
| 906 | 67128-520-206 | SCREW-TAP TITE PLAIN;B+2X6 FE FZB | |
| 907 | 67128-522-240 | SCREW-TAP TITE BH;2X4 FE FZB | |
| 909 | A0102-0026 | SCREW-TAP TITE;BH M1.75 SWRCH10A ZPC2 BLK TB | |
| 910 | 60504-0093-01 | SCREW-TAP TITE;BH +B M2 L8.5 SWRCH18A BLK SPC2 | |
| 911 | 60504-0117-00 | SCREW;BH M1.4X3.5 | |
| 912 | 60504-0105-00 | SCREW-TAP TITE;BH M1.7X5.8 SWRCH10A ZP4 BLK | |
| 914 | 60504-0117-01 | SCREW;BH M1.4X5 | |
| ICD01 | B4014-0053 | IC-CCD;ICX055-AK DIP | |
| W501 | 69063-214-296 | ASSY FPC;C/M SEN(VN-U12) 28P | |
| W502 | 69063-214-297 | ASSY FPC;L/M D/M M/SW(VN-U12) 16P | |
| W503 | 69063-214-298 | ASSY FPC;P/AMP(VN-U12) 11P | |

## 9-2. MECHANICAL PARTS (1)



| Loca.No | Part No | Description & Specification | Remark |
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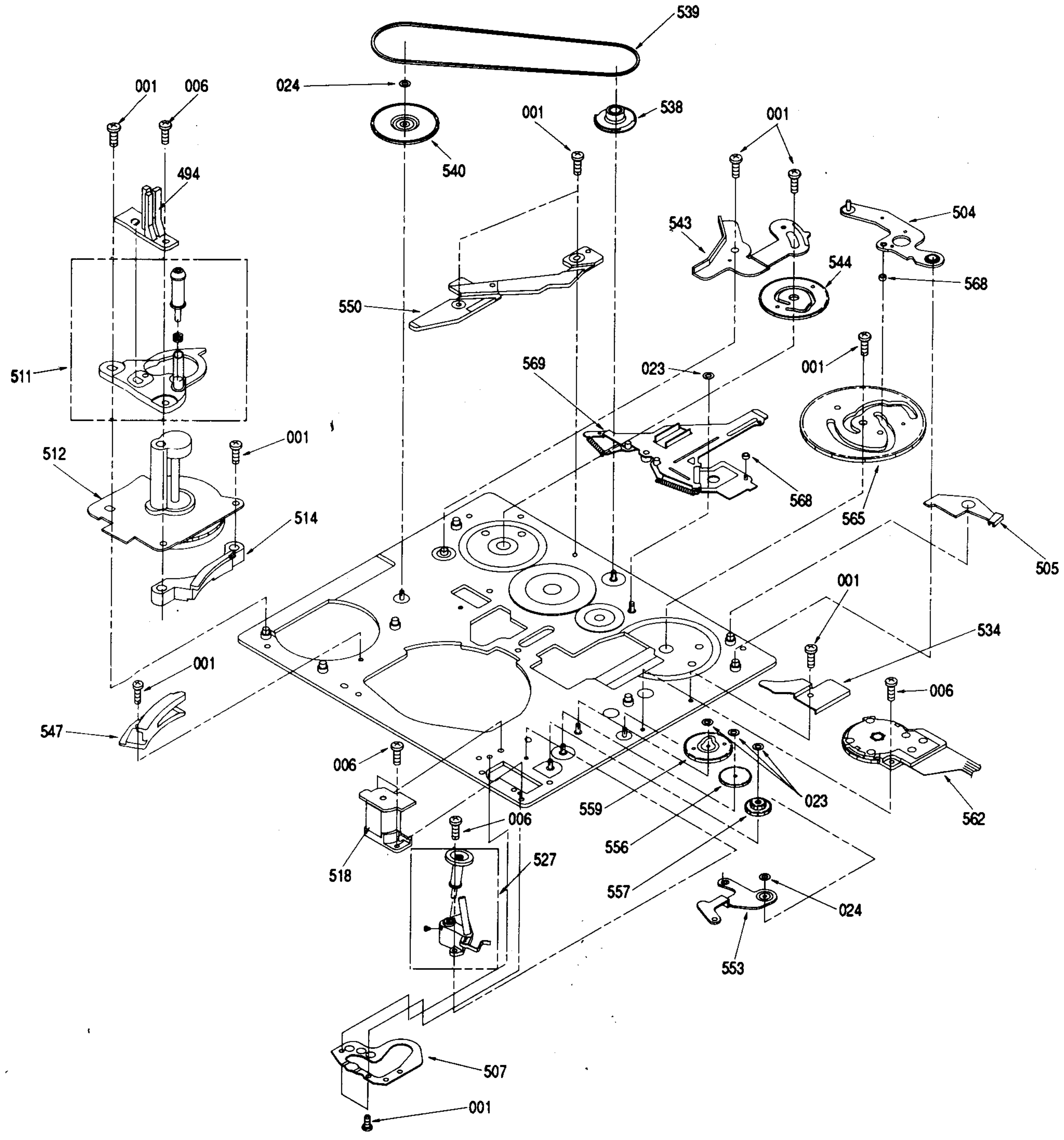
| 001 | 60504-0005-00 | SCREW-BH;BH+ M1.4 L2 WHT | |
| 002 | 60504-0015-00 | SCREW;BH + FP M1.4 L1.2 S45C-HC BLK | |
| 003 | 60504-0017-00 | SCREW;BH + FP M1.4 L2.2 S45C-HC BLK | |
| 004 | 60504-0038-00 | SCREW-MACHINE;BH B M1.7 L5 FE WHT | |
| 005 | 60504-0039-00 | SCREW-MACHINE;BH B M1.7 L8 FE WHT | |
| 021 | 60534-0005-00 | WASHER-SLIT;ID0.75 OD2.0 T0.2 POLYSLIDER | |
| 316 | 63312-0011-01 | COVER-BACK;A5052P 314H | |
| 318 | 62051-0012-00 | HOUSING-ASS'Y;STS304/STS303 T0.5 DE-4 | |
| 318M | 62663-0014-00 | DAMPER-HOUSING;SUS/POM/NYLON 30G DE-2A | |
| 319 | 63353-0057-00 | GUIDE-TAPE T;DURACON M90-02 NTR | |
| 320 | 69063-214-360 | ASSY-DRUM;DE-4UPN-SS | |
| 326 | 63081-0011-00 | RAIL-STOPPER L;ZDC12 | |
| 327 | 63082-0012-00 | RAIL-STOPPER R;ZDC12 | |
| 329 | 66534-0006-00 | CONTACT-EARTH BRUSH ASS'Y;SECC/PBSP/CR/C DE-4 | |
| 330 | 60509-0065-00 | SCREW-MACHINE;BH UP M2 L7 SWRCH10A WHT WL | |
| 331 | 67094-604-410 | SCREW-BH;1+M2X5 FE FZY,WL | |
| 405 | 63312-0005-00 | COVER-REEL ASSY;SUS304-CSP T0.2+DURACON M90-02 BLK | |
| 408 | 61603-0005-00 | IDLER(ASSY);DE-4A | |

## 9-3. MECHANICAL PARTS (2)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| Loca.No | Part No | Description & Specification | Remark |
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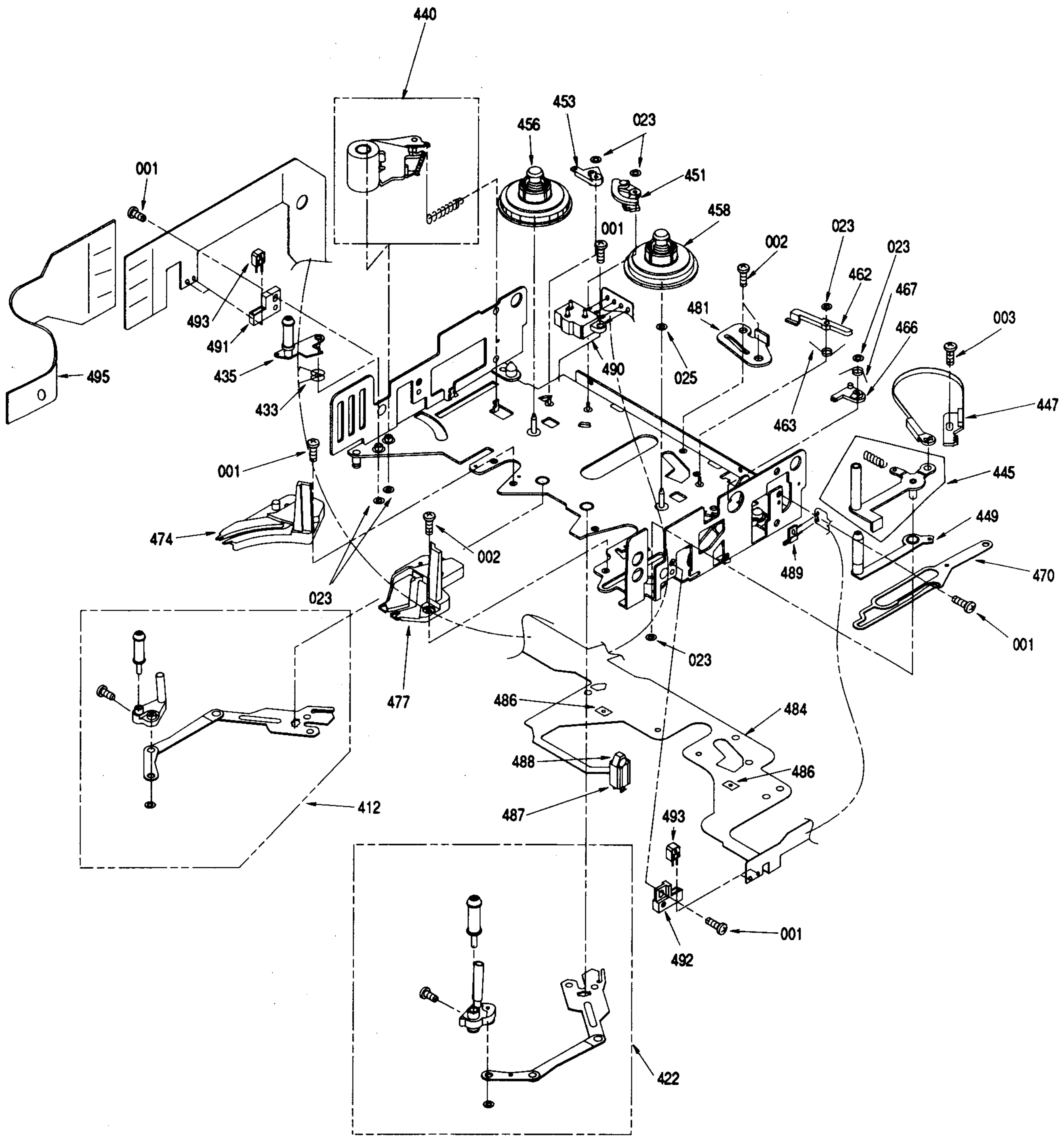
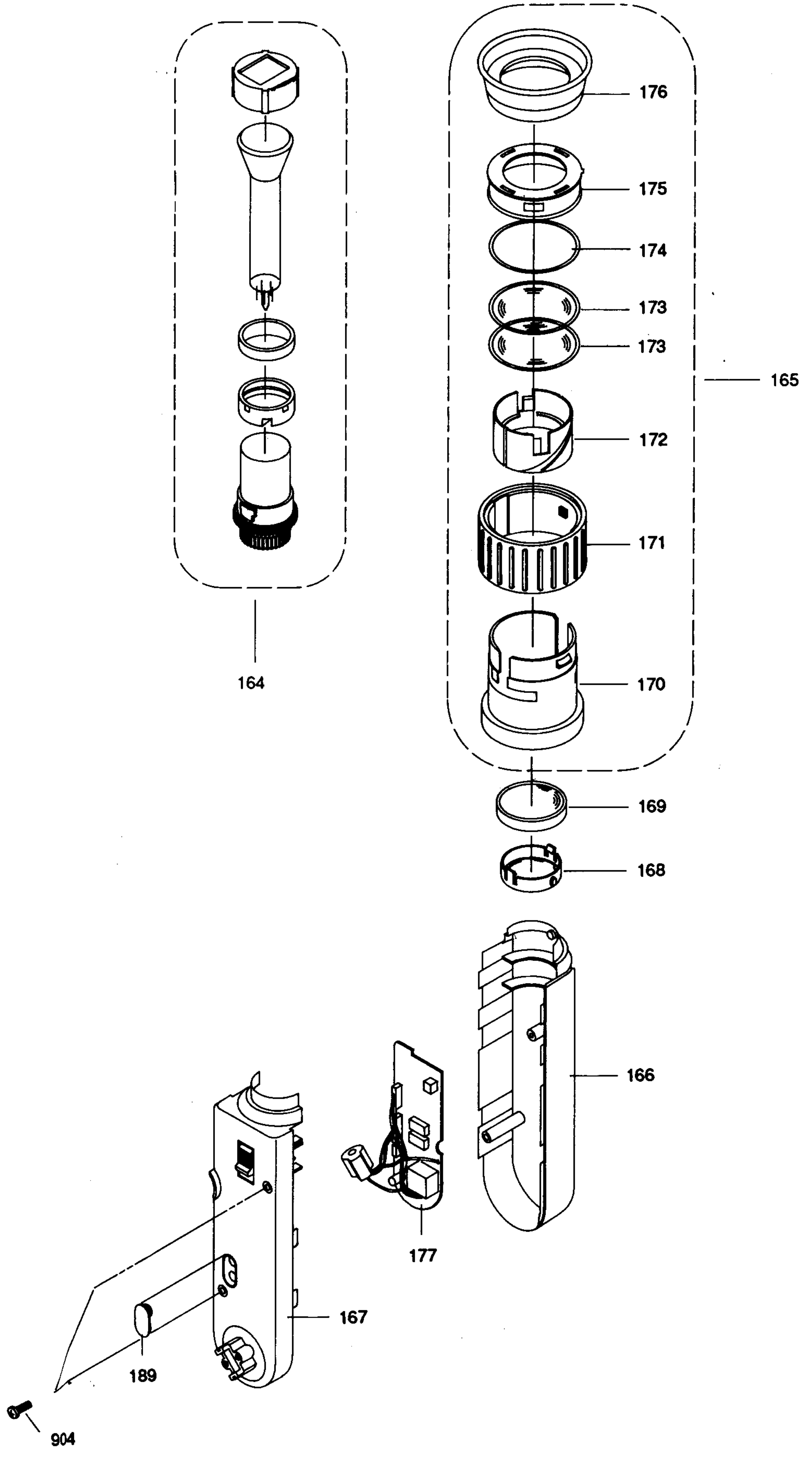
| 001 | 60504-0005-00 | SCREW-BH;BH + M1.4 L2 WHT | |
| 006 | 60504-0016-00 | SCREW;PH + FP M1.4 L3.5 S45C-HC BLK | |
| 023 | 60534-0006-00 | WASHER-SLIT;PI0.95 OD2.5 T0.25 | |
| 024 | 60534-0003-00 | WASHER-SLIT;PI0.75 OD2.5 T0.2 POLYSLIDER | |
| 494 | 63324-0246-00 | HOLDER-FPC;PBT #3300 | |
| 504 | 61533-0058-00 | LEVER-CAM ASS'Y;DE-4 | |
| 505 | 61534-0006-00 | LEVER-EJECTOR;SUS304-CSP T0.3 | |
| 507 | 63013-0207-00 | BRACKET-LOADING;SUS304-CP T0.3 | |
| 511 | 62202-0063-00 | BASE-CAPSTAN ASS'Y;STS303/CS/STS304/WPB DE-4 | |
| 512 | 66823-0047-00 | MOTOR-CAPSTAN;DE-4U | |
| 514 | 63083-0014-00 | RAIL-MIDDLE R;DURACON M90-02 NAT | |
| 518 | 66823-0055-00 | MOTOR-LOADING(ASSY);DE-4U | |
| 527 | 63033-0028-00 | POLE-BASE SUB IMP(ASSY);SUS+ZDC-2 NAT DE-4 | |
| 534 | 63354-0029-00 | GUIDE-MODE SW;SUS304-CSP T0.3 | |
| 538 | 61473-0012-00 | GEAR-PULLEY ASSY;DE-3 | |
| 539 | 61493-0006-00 | BELT-TIMMING;L137 T0.4 POLYURETHAN | |
| 540 | 61473-0010-00 | GEAR-CAPSTAN ASSY;PA-SBK 1218 | |
| 543 | 61533-0051-00 | LEVER-CAM P ASS'Y;DE-4 | |
| 544 | 61473-0009-01 | GEAR-CAM PINCH;SUS304-CSP T0.8 | |
| 547 | 63083-0013-00 | RAIL-MIDDLE L;DURACON M90-02 NAT | |
| 550 | 63313-0030-00 | COVER-TIME BELT;DURACON M90-02 NAT | |
| 553 | 61534-0056-00 | LEVER-CAM TENS ASS'Y;DE-4 | |
| 556 | 61474-0004-00 | GEAR-LOADING B;BERIC | |
| 557 | 61474-0078-00 | GEAR-LOADING A;DURACON M90-02 | |
| 559 | 61473-0005-00 | GEAR-CAM TENSION;BERIC | |
| 562 | 66202-0012-01 | SWITCH-MODE ASS'Y;SRZZOA083A DE-4U | |
| 565 | 69063-214-244 | ASSY-GEAR CAM MAIN;DE-4A | |
| 568 | 61524-0003-00 | ROLLER-CAM MAIN;SUS303 | |
| 569 | 60102-0023-00 | PLATE-SLIDER ASS'Y;DE-4 | |

## 9-4. MECHANICAL PARTS (3)



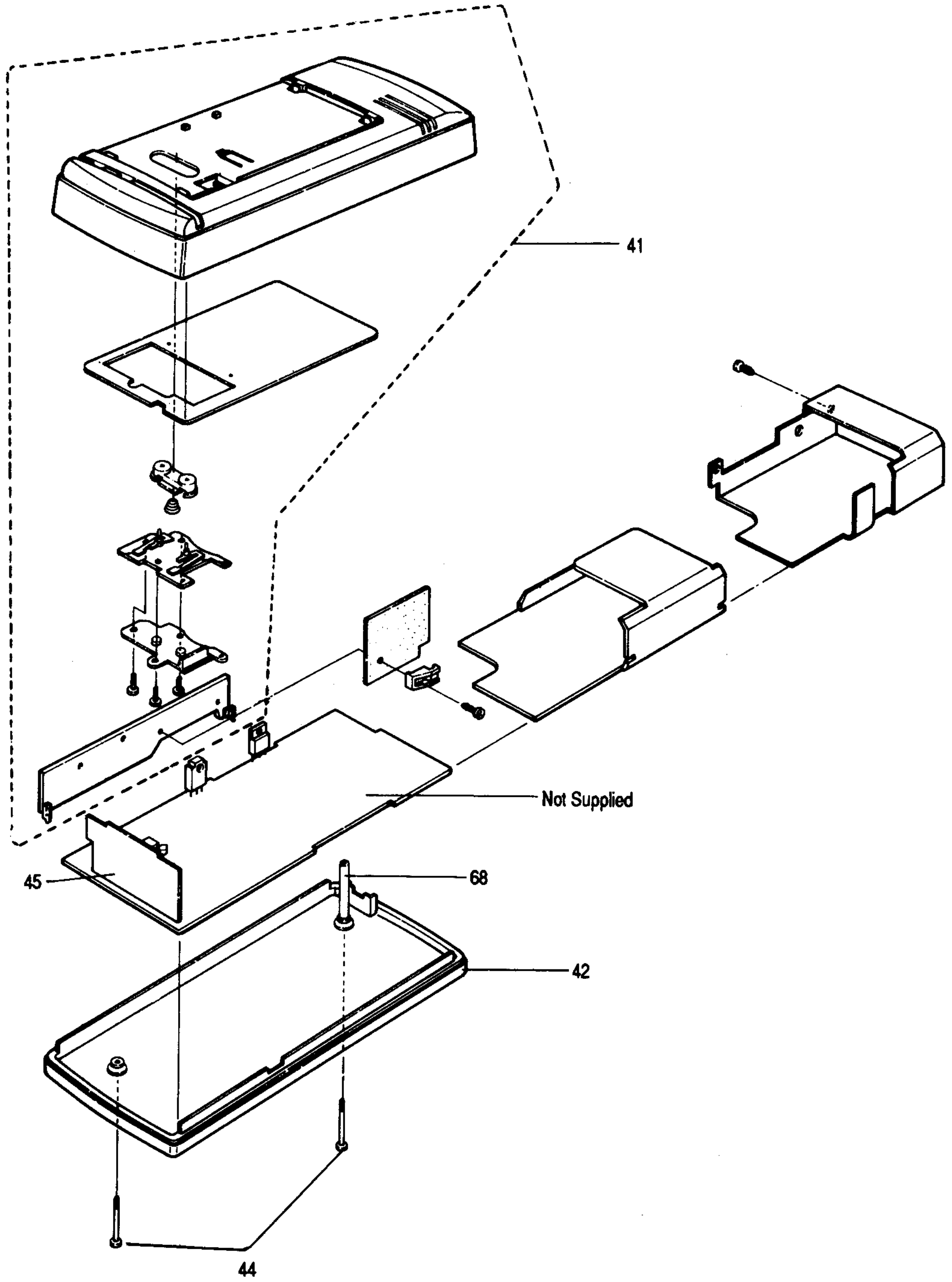
| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| 001 | 60504-0005-00 | SCREW-BH;BH + M1.4 L2 WHT | |
| 002 | 60504-0015-00 | SCREW;BH + FP M1.4 L1.2 S45C-HC BLK | |
| 003 | 60504-0017-00 | SCREW;BH + FP M1.4 L2.2 S45C-HC BLK | |
| 023 | 60534-0006-00 | WASHER-SLIT;PI0.95 OD2.5 T0.25 | |
| 025 | 60534-0023-00 | WASHER-SLIT;ID2.6 OD5 T0.25 POLYSLIDER BLK | |
| 412 | 61543-0066-00 | ARM-POLE BASE T(ASSY);SUS+ZDC-2 T2.0 DE-4 | |
| 422 | 61543-0067-00 | ARM-POLE BASE S(ASSY);SUS+ZDC-2 T2.6 DE-4 | |
| 433 | 62724-0099-00 | SPRING-(T) REVIEW ARM;TS SUS304WPB PI0.26 D2.93 | |
| 435 | 61543-0059-00 | ARM-REVIEW ASS'Y;STS303/STS304/CSP | |
| 440 | 61543-0063-00 | ARM-PINCH R ASS'Y(ASSY$_{\Pi}$ );DE-4A | |
| 445 | 61543-0061-00 | ARM-TENSION;STS303/STS304 T0.5 L43 | |
| 447 | 63324-0057-00 | HOLDER-TEN BAND ASS'Y;DE-4 | |
| 449 | 61534-0068-00 | LEVER-GUIDE ASS'Y;STS303/POM | |
| 451 | 61543-0012-00 | ARM-CLUTCH ASSY;DURACON M90-02 | |
| 453 | 61534-0059-00 | LEVER-BRAKE T ASS'Y;DE-4 | |
| 456 | 61573-0020-00 | REEL-T(ASSY);DE-4A | |
| 458 | 61573-0019-00 | REEL-S ASSY;DE-4A | |
| 462 | 62614-0006-00 | BRAKE-LEVER S;DURACON M90-02 NAT DE-4 | |
| 463 | 62724-0088-00 | SPRING-LEVER BRAKE S;SUS304 WPB | |
| 466 | 61543-0049-00 | ARM-BRAKE S;DURACON M90-02 NAT | |
| 467 | 62724-0087-00 | SPRING-ARM BRAKE S;SUS304 WPB | |
| 470 | 61643-0018-00 | SLIDER-L.G;SUS304-CSP 0.4T | |
| 474 | 63082-0010-00 | RAIL-GUIDE T;DURACON M90-02(NAT) | |
| 477 | 63081-0009-00 | RAIL-GUIDE S;DURACON M90-02 NAT | |
| 481 | 63334-0003-00 | CLAMP-LOCKER SUB CHASSIS;SUS304-CSP T0.6 | |
| 484 | 69063-214-314 | ASSY FPC SUB CHASSIS;DE-4U | |
| 486 | 62599-099-033 | SENSOR-REEL;TLP 907Y | |
| 487 | 63324-0014-00 | HOLDER-CASSETTE LED;DURACON M90-02(BLK) | |
| 488 | 62309-112-045 | LED-IR;GL453 | |
| 489 | 66209-0019-00 | SWITCH-HOUSING;LSA-1112J2PT 15V 2MA | |
| 490 | 66204-0018-00 | SWITCH-DETECTOR;SPPW63 | |
| 491 | 63323-0016-00 | HOLDER-END SENSOR;DURACON M90-02(BLK) | |
| 492 | 63323-0015-00 | HOLDER-START SENSOR;DURACON M90-02(BLK) | |
| 493 | 66214-0014-00 | SENSOR-TOP/END;PT4800F | |
| 495 | 66044-0089-00 | FPC-CONNECTION;FPC T0.2 DE-4U | |

## 9-5. E.V.F



| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| 164 | 69063-214-432 | ASSY-CRT;VN-U12 | |
| 165 | 69063-214-433 | ASSY-RING EVF;VN-U12 SPORTS | |
| 166 | 62031-0158-01 | CASE-EVF(R);ABS94V0 T1.5 BLK VP-U12/SEG | |
| 167 | 62031-0157-00 | CASE-EVF(L);ABS94V0 T1.5 BLK VN-U12 | |
| 168 | 63323-0271-00 | HOLDER-LENS(A);ABS94HB BLK VN-U12 | |
| 169 | 62714-0050-00 | LENS-EVF(G);F1 D15.5 SP | |
| 170 | 63353-0080-00 | GUIDE-LENS;ABS94HB T.15 BLK VN-U12 | |
| 171 | 60573-0019-00 | RING-EVF;ABS94HB ID18 OD29 BLK T1,5 VN-U12 | |
| 172 | 63323-0272-00 | HOLDER-LENS(B);ABS94HB BLK VN-U12 | |
| 173 | 62724-0180-00 | SPRING-PLATE RING EVF;PS STS301 T0.4 OD26 (VN-U10) | |
| 174 | 62713-0049-00 | LENS-EVF(MD);PMMA D19.1 ASP | |
| 175 | 63324-0236-00 | HOLDER-EYE CUP;ABS94HB BLK (VN-U12) | |
| 176 | 63394-0055-00 | RUBBER-EYE;SILICONE (VN-U12) | |
| 177 | 69063-214-223 | ASSY EVF BOARD;VP-U12 PAL | |
| 189 | 63314-0126-00 | COVER-HOLF(EVF);BR T3.0 BLK (VN-U12) | |
| 904 | 67128-521-206 | SCREW-TAP TITE BH;3B+2X6 FE FZB | |

## 9-6. ADAPTOR



| Loca.No | Part No | Description & Specification | Remark |
|---|---|---|---|
| 41 | 69063-213-495 | ASSY CASE TOP;AA-E1P CASE TOP | |
| 42 | 66032-603-110 | CASE-BOTTOM;ABS 94V0 | |
| 44 | 60504-0053-00 | SCREW-TAP TITE;PWH + TB M3 L25 SWRCH10A BLK | |
| 45 | 69063-213-943 | ASSY SUB 1 BOARD;AA-E1 NTSC/PAL | |
| 68 | 67354-600-810 | RING-GUIDE;ABS 94V0 | |

# 10. ADJUSTMENT

## 10-1. MECHANICAL ADJUSTMENT

### 10-1-1. Playback Tension Adjustment (See Fig. 1)

1. Remove Cover Housing, Case-Top, Case Front, Case-Right Ass'y. (See section 4-1-1, 4-1-2, 4-1-3, and 4-1-4 on the page 4-1,4-2)
2. Supply DC 7.5V to Battery Terminal.

1) Set the Torque Cassette.
2) Set the Play mode, and confirm that Reel Disk S torque value is within 4.5 ± 1 g/cm.
3) If the torque value does not meet the specification, adjust the Tension Band.

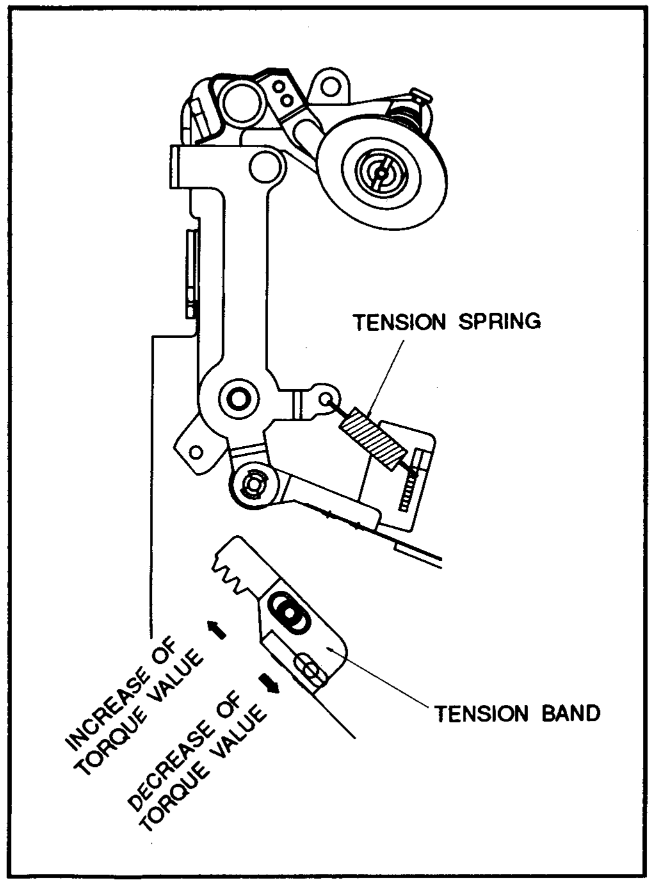

TENSION SPRING
INCREASE OF TORQUE VALUE
DECREASE OF TORQUE VALUE
TENSION BAND

Fig. 1 Playback Tension Adjustment

### 10-1-2. Reel Torque Check

1) Set the Torque Cassette.
2) Set the Play mode, and confirm that Reel Disk T torque value 10.5 ± 3.5 g/cm.
3) Set the RPS mode and confirm that Reel Disk S torque value is within 35 ± 5 g/cm.
4) If the torque value does not meet the specifications, replace the corresponding Reel Disk.

### 10-1-3. Tape Path Adjustment

**1. Layout of Tape Transport Adjustment**

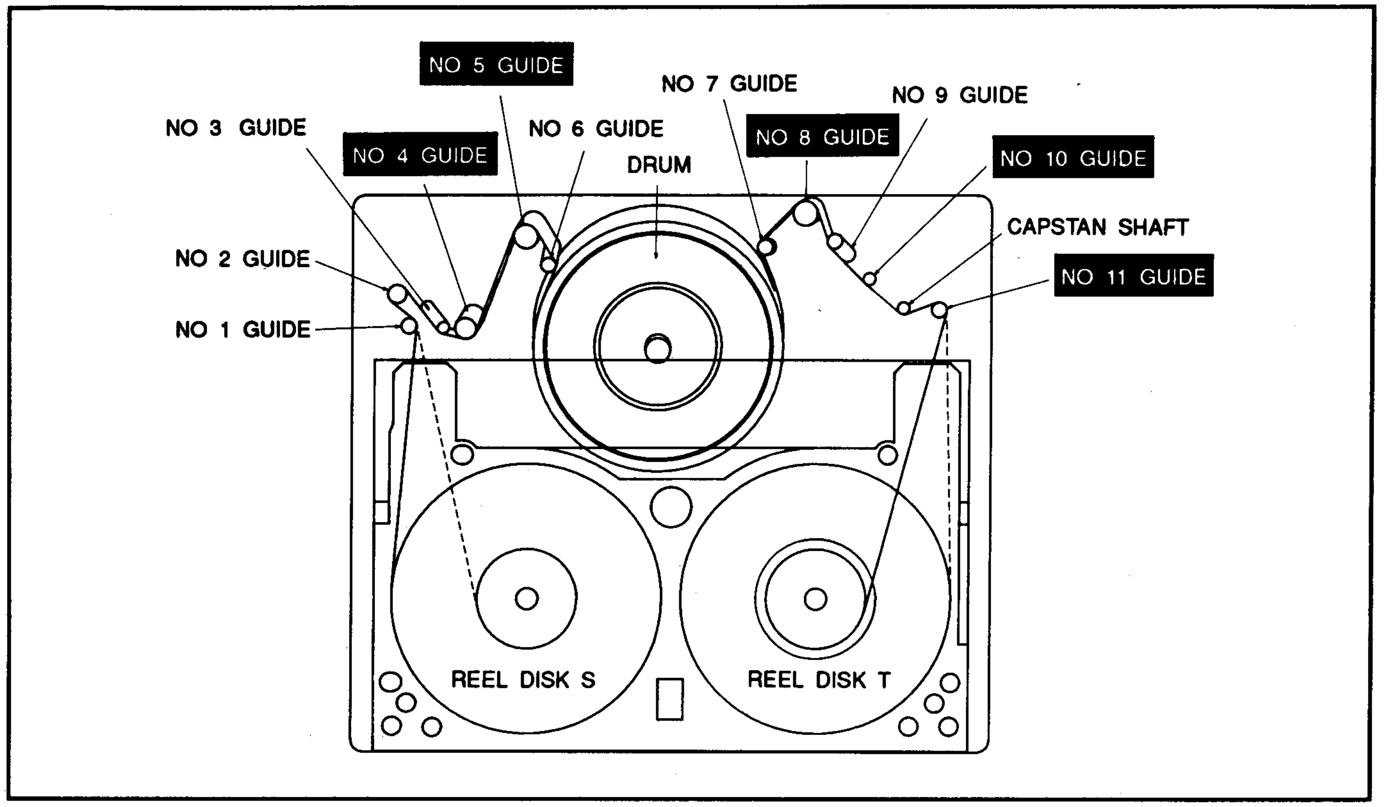

NO 5 GUIDE
NO 7 GUIDE
NO 9 GUIDE
NO 3 GUIDE
NO 4 GUIDE
NO 6 GUIDE
NO 8 GUIDE
NO 10 GUIDE
DRUM
CAPSTAN SHAFT
NO 2 GUIDE
NO 11 GUIDE
NO 1 GUIDE
REEL DISK S
REEL DISK T

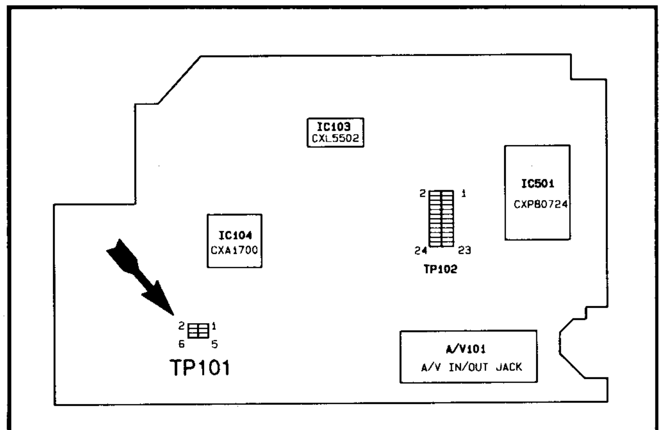
Fig. 2 Layout of Tape Transport Adjustment

| Guide NO. | Component Name | Adjustment Purpose |
|---|---|---|
| NO. 1 | Tension Pole | — |
| NO. 2 | Roller Lever/G | — |
| NO. 3 | Slant Pole SUB | — |
| NO. 4 | Impedance Roller | Tape Height |
| NO. 5 | Guide Roller "S" | Envelope |
| NO. 6 | Pole Slant "S" | — |
| NO. 7 | Pole Slant "T" | — |
| NO. 8 | Guide Roller "T" | Envelope |
| NO. 9 | Pole Slant CAP | — |
| NO. 10 | Shaft Pole Guide | Tape Guide |
| NO. 11 | Post Review Arm | Tape Wrinkle |

## 2. Preparation for Adjustment

1) Clean tape path surfaces. (Guide Roller, Tape Guides, Drum) (See Fig. 2)
2) Connection of oscilloscope and output of waveform.

Test Point : Pin 6 of TP101 (PB RF)
Pin 2 of TP101 (H'D SW - Trigger)



(VCR Main PCB - Top Side)

## 3. Tracking Adjustment

1) Playback the alignment tape for tracking adjustment.
2) Confirm that both the entrance and exit side RF waveforms of oscilloscope are flat. (See Fig. 3) If they are not, adjust as follows. (Tracking fine adjustment)

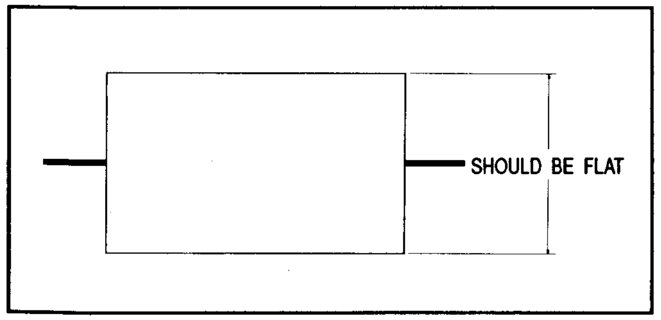


Fig. 3

## 4. Tracking fine Adjustment (See Fig. 4)

【1】 Playback the alignment tape for tracking adjustment.

≪Adjustment of Drum entrance side≫
1) Confirm whether the waveform is flat or not.
2) If it shows like A : Adjust No. 5 Guide (Guide Roller S) clockwise to get the flat envelope waveform.
3) If it shows like B : Adjust No. 5 Guide counterclockwise to get the flat envelope waveform.

≪Adjustment of Drum exit side≫
1) Confirm whether the waveform is flat or not.
2) If it shows like C : Adjust No. 8 Guide (Guide Roller T) colckwise to get the flat envelope waveform.
3) If it shows like D : Adjust No. 8 Guide counterclockwise to get the flat envelope waveform.

【2】 Reconfirm the envelope waveform.

1) After following step 【1】 reconfirm that envelope waveform has not changed.
2) If it's changed, please repeat step 【1】.

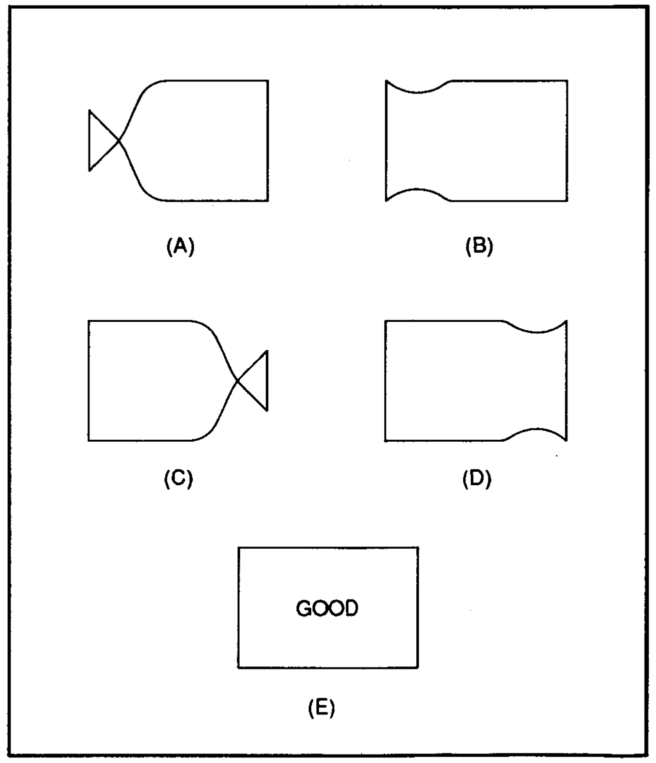


Fig. 4

## 5. Tape Guide Adjustment

【1】 No. 4 Guide Adjustment (See Fig. 5 and 6)

1) Playback the alignment tape.
2) Check that the tape is not bent at the Lower Flange.
3) Guide the tape to the Lower Flange.
4) CUE/RPS the tape, then Play it Back and confirm that the RF waveform rises flat within 2.5 seconds. (See Fig. 5)
5) If the waveform is not normal, repeat step 3) and 4) until a normal waveform is obtained.

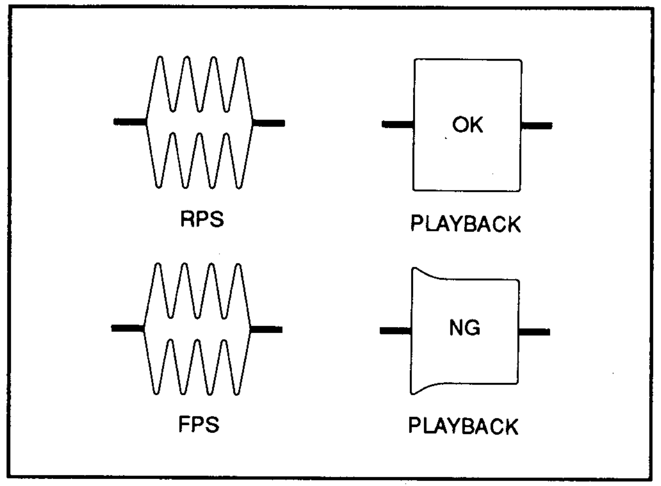


Fig. 5

【2】 No. 10 Guide Adjustment (See Fig. 6)

1) Playback the alignment tape and guide the tape to the Lower Flange.
2) CUE/RPS the tape, then Play it Back and confirm that the tape is not bent at the Flange, instead of check that RF waveform rises flat within 2.5 seconds in the PLAYBACK mode.
3) If the waveform is not normal, repeat steps 1) and 2) until a normal waveform is obtained.
4) If the tape is bent in the RPS mode, Adjust No. 11 Guide until the tape is straightened.

【3】 No. 11 Guide Adjustment (See Fig. 6)

1) Playback the alignment tape.
2) Check that the tape is not bent between No. 10 Guide and Capstan.
3) Set the Play mode again and confirm that the tape is not bent. If the tape is bent, repeat steps 1) and 2).

【4】 CUE and RPS Waveform Check (See Fig. 7)

1) Playback the alignment tape for tracking adjustment and set the RPS mode. Confirm that waveform peaks maintain a constant pitch for 5 seconds or more. In case pitch is not constant, perform section 4 tracking fine adjustment and section 5 tape guide adjustment. (No. 11 Guide)
2) Set the CUE mode and confirm that waveform peaks maintain a constant pitch for 5 seconds or more, otherwise, perform section 4 and section 5. (No. 4 Guide)

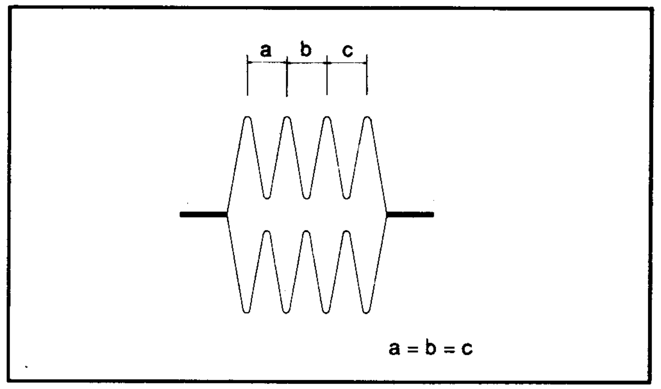


Fig. 7

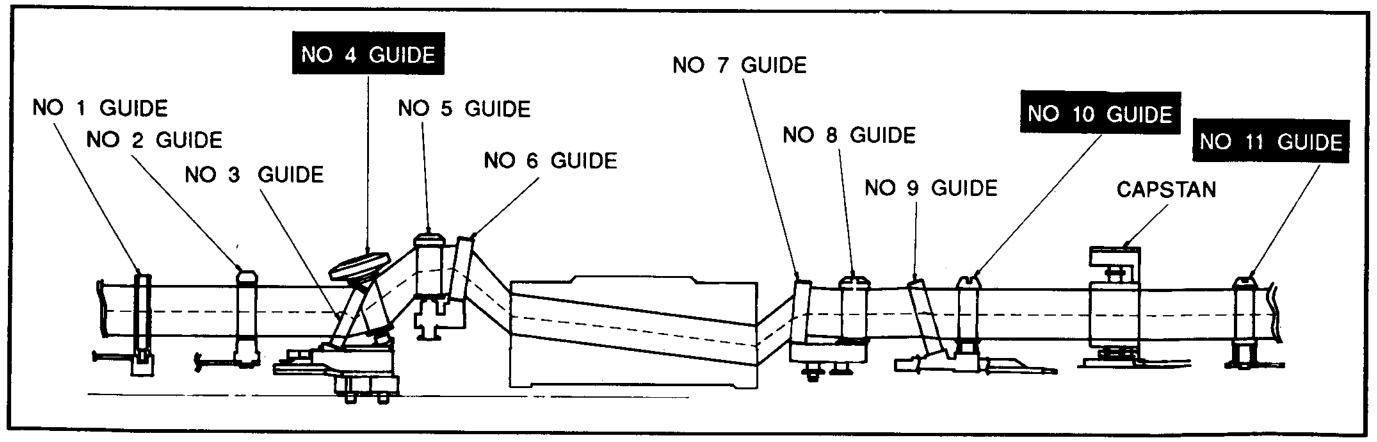


Fig. 6 Tape Travel Diagram

### 10-1-4. Check After Adjustment

**1. Tape Path Check (See Fig. 6)**

1) Playback a tape and confirm that no tape rising and curling occur at the Lower Flange of No. 4 Guide, the Upper Flange of No. 8 Guide, the Lower Flange of No. 10 Guide and the No. 11 Guide Upper and Lower Flanges.
2) In the FPS, RPS, FF, REW mode, check step 1 again.
3) If no tape rising and curling occur, repeat section 4 and 5 once more.

**2. Envelope Stability Check**

1) Playback the alignment tape.
2) Eject the tape, then load it again.
3) Confirm the envelope waveform.

*** STOP → PLAY ;**
Set the Play Back mode and confirm that RF waveform rises flat within 2.5 seconds, also confirm that the tape is not bent around the Pinch Roller.

*** FPS/RPS → PB, FF/REW → PB ;**
CUE/RPS and FF/REW the tape, then Play it Back and confirm that the RF waveform rises flat within 2.5 seconds also confirm that the tape is not bent around the Pinch Roller.

**3. Tracking Check**

1) Playback the alignment tape.
2) Then confirm that the minimum amplitude value (Emin) is 65% of the maximum value (Emax) or larger. (See Fig. 8 (A))
3) Confirm that no large fluctuations occur on the waveform. (See Fig. 8 (B))

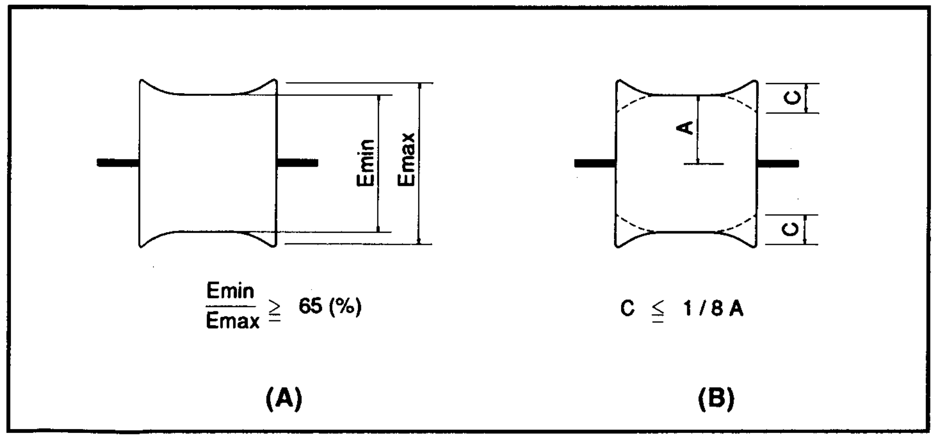


Fig. 8

**4. Self-Recording Envelope-Waveform Check**

1) After self-recording in the SP mode playback the tape and confirm that the RF waveform meets the specification. (See Fig. 9)
Also, check that the level of the amplitude value meets specification. (See Electronic specification)
2) In each mode, confirm that the difference of the amplitude (CH1 and CH2) is 65% or larger. (See Fig. 9)
If it does not meet specification, change Drum Ass'y to a new Drum Ass'y.

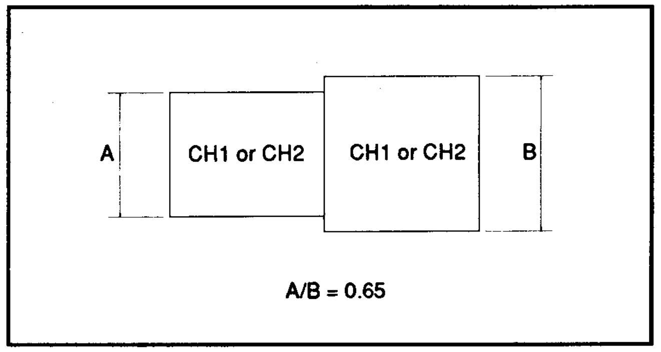


Fig. 9

## 10-2. CAMERA SECTION ADJUSTMENT

**NOTE**

**This CAMERA System has**

- *** EVR (Electronic Variable Resistor) control method by D/A converter instead of VR control method.**
- *** EEPROM to store the confirmed adjustment data.**
- *** DSP (Digital Signal Process ; ICP01 - Process board) chip to process the signal of Camera parts.**
- *** One Test point for the frequency adjustment of DSP main clock (P. CLK).**
- *** The special mode for Camera adjustment using remote control card.**

**Keep in mind ;**

1. Readjustment is needed when the lens assembly is removed from CCD board. The reason is that shifting of zoom track or iris level occurs when the CCD board and lens assembly are reassembled after servicing.
2. Readjustment is needed when the EEPROM (ICP05 of Process Board) and zoom lens assembly are replaced. The reason is that EEPROM stores confirmed adjustment value of each adjustment step.
3. All adjustment steps of the camera section should be performed using the remote control card.

### 10-2-1. Preparations

**1. Equipment to be used**

1) DC Power supply
2) Oscilloscope
3) Frequency Counter
4) PAL vectorscope
5) PAL waveform monitor
6) PAL color monitor or TV
7) Various charts
   - Color bar chart
   - Gray-scale chart, etc ...
8) Alignment tape (Lion pattern)
9) Remote Control card (Part No. **67173-0182-04**)

**2. Composition of Camera P.C.Boards**

1) Process PCB
2) CCD PCB
3) EVF PCB

**3. Adjustment Preparations**

- * Remote Control Card is used as a Camera Adjust Tool.
- * Press the confirm button when each manual adjustment step is completed to write the adjustment data to the EEPROM.
- * After each adjustment step is completed, OSD shows "OK!".
- * To cancel the adjustment mode, remove the power source.

**4. Remote Control**

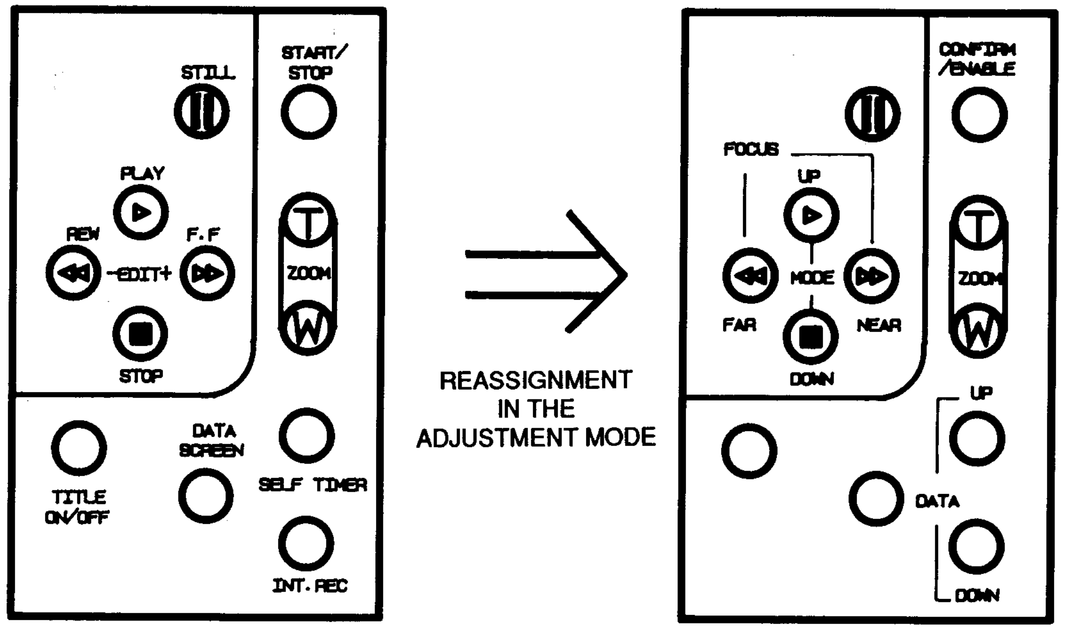
*The following is a chart explaining the use of each button :

| USING BUTTON | ADJUSTMENT |
|---|---|
| CONFIRM | DATA stored after finishing adjustment by mode or enable to automatic adjustment mode. |
| DATA UP | When changing DATA value of adjust state. |
| DATA DOWN | |
| MODE UP | Mode change. |
| MODE DOWN | |
| NEAR | Focus adjustment. |
| FAR | |
| WIDE | Used for manual focus adjustment. |
| TELE | |

This remote is used to control the camcorder. It is also used to adjust the camera section when the unit is in service "ADJUST" mode.

**Remote for Camcorder**

**Figure of Button Placement when remote is used for Service Adjustments.**



**Note:** In Service Adjustment mode, button names are different from those in customer camera function control mode.
EX) start/stop button is the same as Confirm/Enable.

**5. How to get into service "ADJUST" mode.**

**STEP 1**

1. Remove the lithium battery from the camcorder.
2. Connector the power source (battery/DC cable).
3. Eject the tape if it is in the unit.
4. Set the power switch of the camcorder to "CAM" position.
5. Set OSD on state.

**STEP 2**

1. Press the "M/F" button on the left case then, OSD shows "M.Focus".
2. Tern the scene S/W to "HSS".
3. Press the "DSE" button three times on the left case OSD shows "DSE 3".
4. Press and hold the "B.Light" button more than 3 seconds.

**STEP 3**

"ADJUST ?" will now be blinking at center of screen. Now press "START/STOP" button of remote control card.

On screen display shows "51 V-SR 00 00" CAMERA ADJUSTMENT mode has successfully been activated.

Note: When "XX XX" is shown in service adjustment procedures, this indicates variable values.

**During Camera adjustment, the OSD displays the following abbreviations to indicate the selected mode.**

**Example)** "5 1  V - SR  0 0  0 0"

Note: "DATA 1" is previous setting in memory, "DATA 2" is new adjustment setting, that changes during adjustment mode. After pressing "START/STOP", it goes to memory.

| MODE | OSD | DATA 1 | DATA 2 | MEAN | REMARK |
|---|---|---|---|---|---|
| 51 | V-SR | 00 | 00 | VOLTAGE SUB/RESET-GATE | NOT USE |
| 53 | AGC | 00 | 00 | AGC ADJUST | AUTOMATIC |
| 54 | A-HL | 00 | 00 | HALL ADJUST | AUTOMATIC |
| 55 | AWB | 00 | 00 | AUTO WHITE BALANCE | AUTOMATIC |
| 57 | V-SR | 00 | 00 | LENS ADJUST | NOT USE |
| 00 | Y-R | 8A | 8A | Y GAMMA | FIXED |
| 01 | VSUB | 62 | 62 | VOLTAGE SUB | ADJUST |
| 02 | IRIS | 85 | 85 | IRIS CONTROL | ADJUST |
| 05 | V RG | 4D | 4D | VOLTAGE RESET-GATE | ADJUST |
| 06 | M-HL | B4 | B4 | HALL REF | CHANGE |
| 08 | LENS | 00 | 00 | ZOOM TRACK ADJUST | ADJUST |
| 12 | COV2 | 68 | 68 | AUTO KNEE COEF. 2 | FIXED |
| 13 | CAP | 80 | 80 | APERTURE GAIN CONTROL | FIXED |
| 14 | CCOA | 21 | 21 | COLOR SEPARATION COEF. 1 | FIXED |
| 15 | CCOB | 33 | 33 | COLOR SEPARATION COEF. 2 | FIXED |
| 16 | CAKP | D0 | D0 | AUTO KNEE POINT | FIXED |
| 17 | CNSL | 02 | 02 | NOISE SLICE LEVEL | FIXED |
| 18 | CAPS | 10 | 10 | EDGE CHROMA GAIN CONTROL | FIXED |
| 19 | CRCO | 40 | 40 | CCR GAIN CONTROL | FIXED |
| 1A | CBCO | 40 | 40 | CCB GAIN CONTROL | FIXED |
| 1B | CGCO | 80 | 80 | YL GAIN CONTROL | FIXED |
| 1E | MRPW | 40 | 40 | R PRE WHITE BALANCE | FIXED |
| 1F | MGPW | 20 | 20 | G PRE WHITE BALANCE | FIXED |
| 20 | MBPW | 40 | 40 | B PRE WHITE BALANCE | FIXED |
| 21 | MRWB | 40 | 40 | R WHITE BALANCE | ADJUST |
| 22 | MBWB | 80 | 80 | B WHITE BALANCE | ADJUST |
| 23 | MDSR | 02 | 02 | DARK SLICE LEVEL R | FIXED |
| 24 | MDSB | 00 | 00 | DARK SLICE LEVEL B | FIXED |
| 25 | MDSG | FD | FD | DARK SLICE LEVEL G | FIXED |
| 26 | MRHC | 40 | 40 | R HUE CONTROL | ADJUST |
| 27 | MBHC | 15 | 15 | B HUE CONTROL | ADJUST |
| 28 | MRYG | 40 | 40 | R-Y GAIN CONTROL | ADJUST |
| 29 | MBYG | 29 | 29 | B-Y GAIN CONTROL | ADJUST |
| 45 | EHBB | D7 | D7 | B-Y BURST PHASE CONTROL | FIXED |
| 46 | EHBR | 27 | 27 | R-Y BURST PHASE CONTROL | FIXED |
| 47 | ECFA | 40 | 40 | CHROMA FADE CONTROL | FIXED |
| 48 | EWCL | F0 | F0 | WHITE CLIP LEVEL | FIXED |
| 49 | EYFA | 80 | 80 | Y FADE CONTROL | FIXED |
| 4A | ESET | 00 | 00 | Y SETUP LEVEL | FIXED |
| 66 | AETR | XX | XX | AUTO IRIS TARGET | CHANGE |
| 68 | AGMI | XX | XX | AGC MINIMUM | CHANGE |
| 69 | AGMA | XX | XX | AGC MAXIMUM | CHANGE |
| 6A | AEBL | XX | XX | AE BLC | CHANGE |

| MODE | OSD | DATA 1 | DATA 2 | MEAN | REMARK |
|---|---|---|---|---|---|
| 0F | DCMD | 04 | 04 | DM (Detection Module) Command | FIXED |
| 50 |  | 08 | 08 | Low Light Chroma Gain | FIXED |
| 5C |  | 3E | 3E | R-Y Gain Control (Out-Door) | FIXED |
| 5D |  | 38 | 38 | B HUE Control (Out-Door) | FIXED |
| 5E |  | 80 | 80 | PRE W/B | FIXED |
| 5F |  | 78 | 78 | PRE W/B | FIXED |
| 07 |  | 00 | 00 | C GAMMA CONTROL | FIXED |
| 2A |  | B3 | B3 | MATRIX COEFF. A1 | FIXED |
| 2B |  | 4D | 4D | MATRIX COEFF. B1 | FIXED |
| 2C |  | 1C | 1C | MATRIX COEFF. A2 | FIXED |
| 2D |  | E4 | E4 | MATRIX COEFF. B2 | FIXED |
| 2E |  | 01 | 01 | SUPERIMPOSE COMMAND | FIXED |
| 4B |  | 00 | 00 | Y BLACK LEVEL | FIXED |
| 4C |  | A0 | A0 | ENCODER COMMAND 1 | FIXED |
| 4D |  | 04 | 04 | ENCODER COMMAND 2 | FIXED |
| 4E |  | 00 | 00 | T.G COMMAND 1 | FIXED |
| 4F |  | 00 | 00 | T.G COMMAND 2 | FIXED |

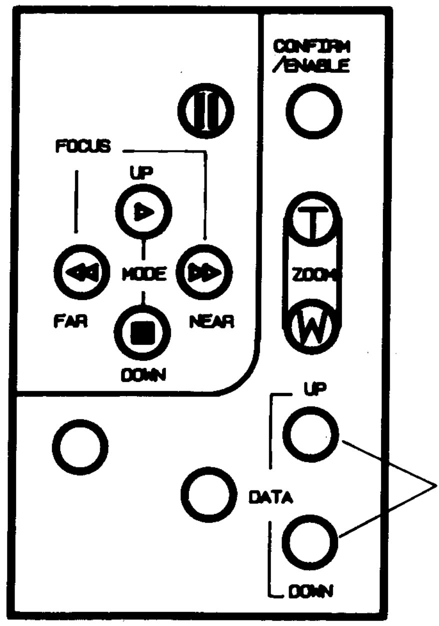
Note: On table you see the "XX XX" for DATA 1 / DATA 2. "XX XX" means arbitary value.

**Example of the TV screen**

51 V-SR 00 00

Data in memory

Data to be adjusted



When adjusting, use UP/DOWN key.

## 10-2-2. Camera System Adjustment

**NOTE**

From now on, the structure of every adjustment is as follows.

| STEP | ADJUSTMENT ITEM |
|---|---|
| | 1. MODE and INPUT SIGNAL/ALIGNMENT TAPE<br>2. TEST POINT and ADJ. part<br>3. RESULT & REMARKS |

ADJ. part →

Test Point - - →

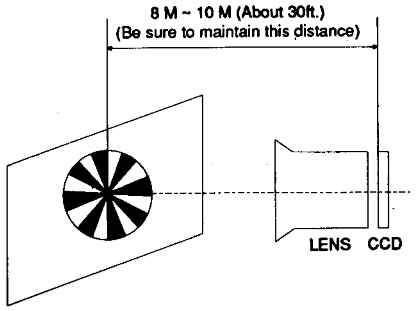
**Note:** The On-Screen Display Information.
"XX XX" means arbitary value.
It can be different number depend on the conditions.

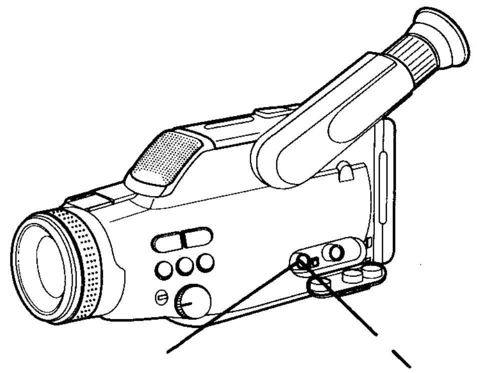
**01 VSUB XX XX**

### 1 FOCUS TO ZOOM TRACKING

**Note :** To maintain proper focus throughout the zoom range, the focus lens position must be changed as the zoom lens is moved. During this adjustment the microprocessor will measure the focus positioning requirements at the wide and telephoto position of the zoom lens.

1. CAMERA "E-E".
2. Focus Chart (Attached on the last page of this manual) & EVR.
3. 1) Aim the camera at the focus chart placed about 30ft. (8 to 10 meters) away and perpendicular to the center of the lens.
   The chart should be placed on the flat, gray or white wall.
   2) Connect monitor TV jack to video output jack.
   3) Press the "PLAY (MODE UP)" and "STOP (MODE DOWN)" buttons, so that the OSD state is "08 LENS XX XX".
   4) Focus Adjustment (There are two (2) ways to do the adjustment.)
      a. Full Auto : Press "START/STOP(CONFIRM)" button for full auto adjustment.
      The camera will move both zoom and focus lens. The adjustment is finished when the O.K message appears on the TV screen.
      b. Manual : Camera lens will be moved to all positions to set maximum focus setting.
      **b-1**. Manual adjustment by pressing the "TELE" button.
      The zoom lens should move to the middle angle position.
      **b-2**. Press the "WIDE" button to instruct the microprocessor to adjust the focus lens for optimum focus.
      **b-3**. Press the "START/STOP (CONFIRM)" button.
      The zoom lens should move to the tele zoom position.
      **b-4**. After the zoom lens reaches the Tele zoom position, repeat step **b-1**.
      **b-5**. Press the "START/STOP (CONFIRM)" button.
      The zoom lens should move to the middle zoom position.
      **b-6**. After the zoom lens reaches the middle zoom position, if focus state is not the optimum focus state, repeat step **b-1**, **b-2**, **b-3** and **b-4**.
      **b-7**. Press "START/STOP (CONFIRM)" button.
      The zoom lens should move to the wide zoom position, try to step **b-1**.
      **b-8**. Press "START/STOP (CONFIRM)" button to instruct the micro processor to write the focus lens position data to the EEPROM.
      The lens will move through the zoom range and the picture will fade out and then back in. The OSD will display "OK".

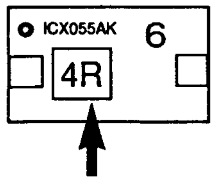




### 2 V SUB

1. CAMERA "E-E", no signal input.
2. Video output jack & EVR.
3. * Connect monitor TV to video output jack.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "01 VSUB XX XX".
   * V SUB specified voltage is indicated by one digit.
     (Rear of the CCD image sensor)
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the data is the specified HEX value.
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.

**EXAMPLE**



★ ICX055AK : CCD Device name

★ 4 : RG code address

★ R : V SUB voltage code address

R = 14.5V ---> 8B

(Rear of the CCD image sensor)

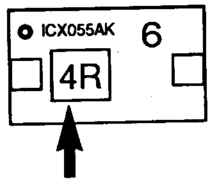
**(Table for V SUB Voltage)**

| Digit | V SUB Voltage | HEX Value | Digit | V SUB Voltage | HEX Value | Digit | V SUB Voltage | HEX Value |
|---|---|---|---|---|---|---|---|---|
| E | 9.0V | 54 | M | 12.5V | 77 | U | 16.0V | 9A |
| F | 9.5V | 59 | N | 13.0V | 7C | V | 16.5V | 9F |
| G | 10.0V | 5E | P | 13.5V | 81 | W | 17.0V | A5 |
| H | 10.5V | 63 | Q | 14.0V | 86 | X | 17.5V | AB |
| J | 11.0V | 68 | R | 14.5V | 8B | Y | 18.0V | B1 |
| K | 11.5V | 6D | S | 15.0V | 90 | Z | 18.5V | BC |
| L | 12.0 | 72 | T | 15.5 | 96 | - | - | - |

### 3 RG (Reset Gate)

1. CAMERA "E-E", no signal input.
2. Video output jack & EVR.
3. * Connect monitor TV to video output jack.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "05 V RG XX XX".
   * RG code is indicated by one digit.
     (Rear of the CCD image sensor)
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the data is the specified HEX value.
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.

**EXAMPLE**



★ ICX055AK : CCD Device name

★ 4 : RG voltage code address

4 = 2.5V ---> 80

(Rear of the CCD image sensor)

**(Table for RG Voltage)**

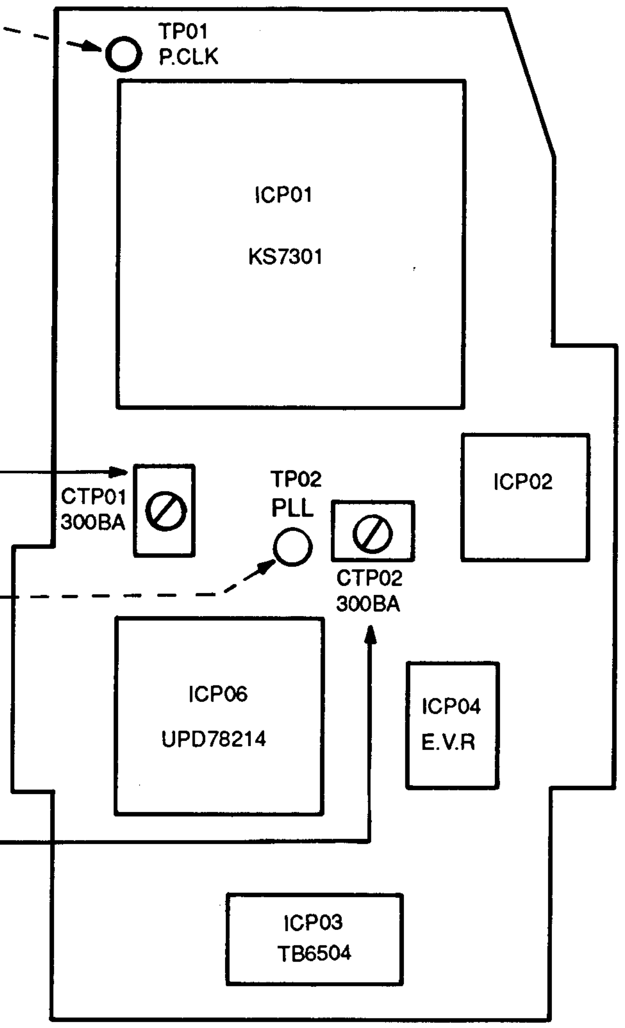
| DIGIT | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| V RG VOLT | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 |
| HEX Value | 32 | 4D | 67 | 80 | 9B | B7 | D0 |

### 4 P. CLK ADJUSTMENT

1. "CAMERA", no signal input.
2. TP01 & CTP01.
3. * Connect a frequency counter to TP01.
   * Adjust CTP01 for **9.453125MHz ± 50Hz**.

### 5 PLL ADJUSTMENT

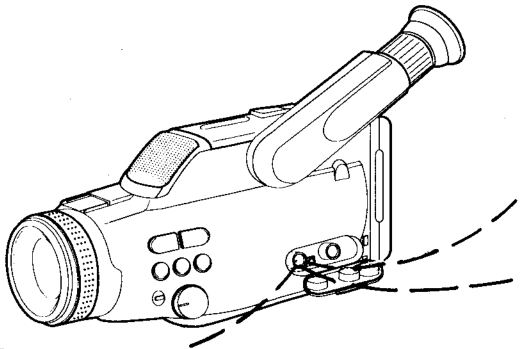
1. "CAMERA", no signal input.
2. TP02 & CTP02.
3. * Connect a frequency counter to TP02.
   * Adjust CTP02 for **2.5V D.C ± 0.1V**.



**PROCESS PCB (BOTTOM SIDE)**

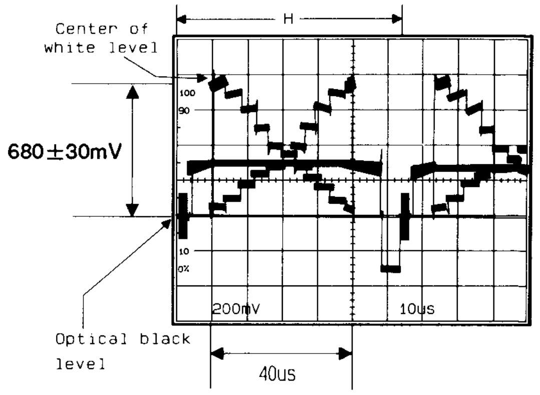
### 6 Y-GAMMA LEVEL

1. CAMERA "E-E", 3100° K gray-scale chart.
2. Video output jack & EVR.
3. * Connect monitor TV to video output jack.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "00 Y-R XX XX".
   * Aim the camera at a gray-scale chart evenly illuminated at 1500 to 2000 lux. (40$\mu s$)
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the data is **"9A"**.
   * Be sure to press the "STSRT/STOP (CONFIRM)" button to memorize setting.
   * The OSD shows "OK".



### 7 IRIS LEVEL

1. CAMERA "E-E", 3100° K gray-scale chart.
2. Video output jack & EVR.
3. * Connect video output jack to waveform monitor input jack and monitor TV jack respectively.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "02 IRIS XX XX".
   * Aim the camera at a gray-scale chart evenly illuminated at 1500 to 2000 lux. (40$\mu s$)
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that Y level is **680mVp-p ± 30mV.**
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.
   * The OSD shows "OK".



### 8 AUTO HALL

1. CAMERA "E-E", no signal input.
2. Video output jack & EVR.
3. * Connect monitor TV to video output jack.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "54 A-HL XX XX".
   * Press "START/STOP (CONFIRM)" button.
   * Then, the microprocessor will work.
     - IRIS closed, FINDS HALL minimum value,
     - IRIS open, FINDS HALL maximum value.
   * The OSD shows "OK".

## 9 AUTO AGC CONTROL

1. CAMERA "E-E", 3100° K gray-scale chart.
2. Video output jack & EVR.
3. * Connect monitor TV to video output jack.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "53 AGC XX XX".
   * Aim the camera at a gray-scale chart evenly illuminated at 1500 to 2000 lux. (40µs)
   * Press "START/STOP(CONFIRM)" button.
   * Then, the microprocessor will work.
     - FIND AGC maximum point data.
     - FIND AGC start point data.
   * The OSD shows "OK".

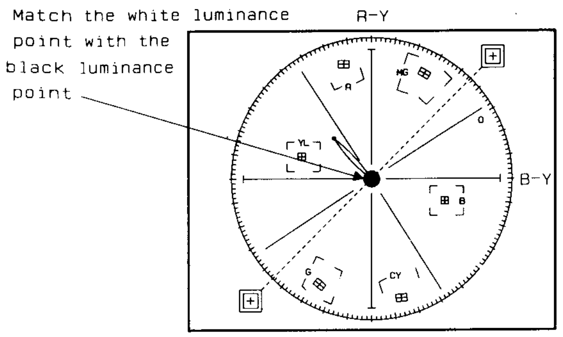
## 10 AUTO WHITE

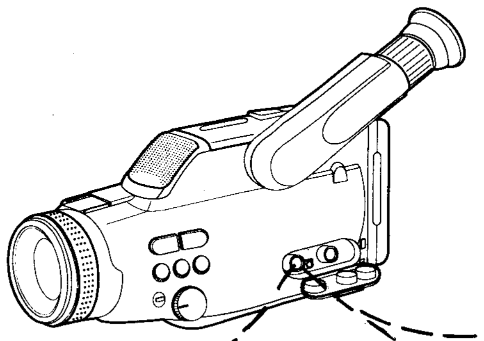
1. CAMERA "E-E", 3100° K/5100° K gray-scale chart.
2. Video output jack & EVR.
3. * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "55 AWB XX XX".
   * Connect vectorscope input jack to video output jack.

1) W/B INDOOR
   - Aim the camera at a 3100° K gray-scale chart illuminated at 1500 to 2000 lux. (40µs)
   - Press "START/STOP (CONFIRM)" button so that the white vector moves to the center on screen of the vectorscope.

2) W/B OUTDOOR
   - Aim the camera at a 5100° K gray-scale chart illuminated at 1500 to 2000 lux. (40µs)
   - Press "START/STOP (CONFIRM)" button so that the white vector moves to the center on screen of the vectorscope.

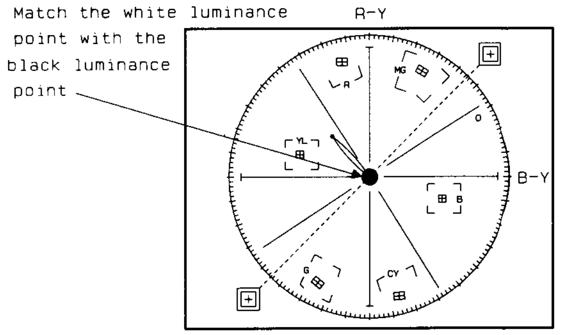
* The OSD shows "OK".


Match the white luminance point with the black luminance point
R-Y
B-Y
R
MG
YL
B
G
CY



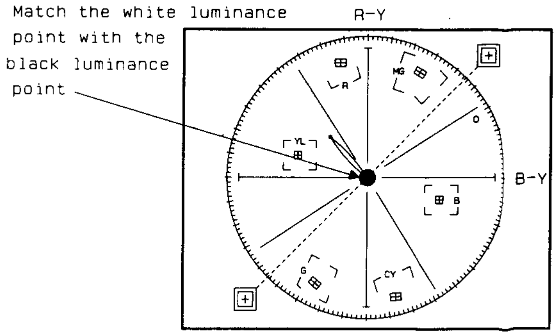
## 11 PRE WHITE BALANCE (I)

1. CAMERA "E-E", 3100° K gray-scale chart.
2. Video output jack & EVR.
3. * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "21 MRWB XX XX".
   * Connect vectorscope input jack to video output jack.
   * Aim the camera at a color chart illuminated at 1500 to 2000 lux.
   * Use the "SELF TIMER(Data up), INT.REC (Data down), START/STOP(CONFIRM)" button so that the white vector moves to the center on screen of the vectorscope.
   * The OSD shows "OK".


Match the white luminance point with the black luminance point
R-Y
B-Y
R
MG
YL
B
G
CY

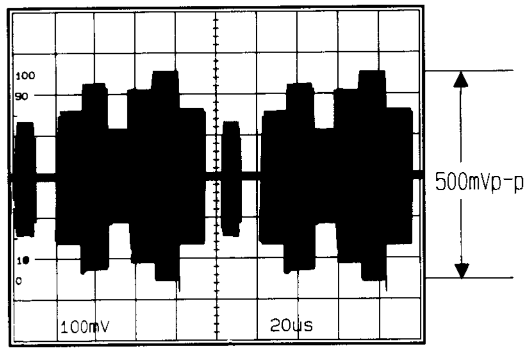
## 12 PRE WHITE BALANCE (II)

1. CAMERA "E-E", 3100° K gray-scale chart.
2. Video output jack & EVR.
3. * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "22 MBWB XX XX"
   * Connect vectorscope input jack to video output jack.
   * Aim the camera at a color chart illuminated at 1500 to 2000 lux.
   * Use the "SELF TIMER(Data up), INT.REC (Data down), START/STOP(CONFIRM)" button so that the white vector moves to the center on screen of the vectorscope.
   * The OSD shows "OK".


Match the white luminance point with the black luminance point
R-Y
B-Y
R
MG
YL
B
G
CY

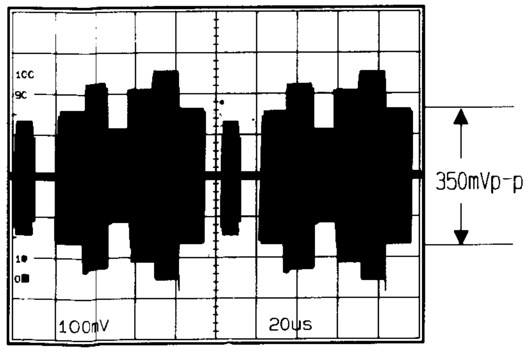
### 13 R-Y GAIN

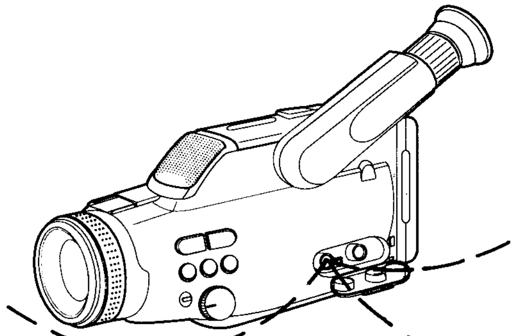
1. CAMERA "E-E", 3100°K color bar chart.
2. Video output jack & Register of EEPROM.
3. * Connect video output jack to waveform monitor input jack and monitor TV jack respectively.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "28 MRYG XX XX".
   * Aim the camera at a color bar chart illuminated at 1500 to 2000 lux.
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the Red level is **500mVp-p ± 35mV.**
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.
   * The OSD shows "OK".



### 14 B-Y GAIN

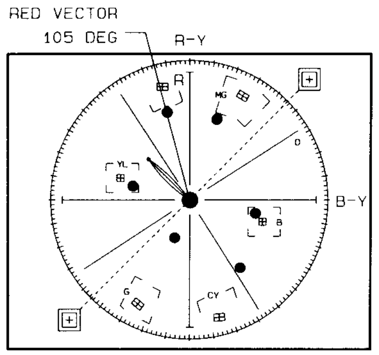
1. CAMERA "E-E", 3100°K color bar chart.
2. Video output jack & Register of EEPROM.
3. * Connect video output jack to waveform monitor input jack and monitor TV jack respectively.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "29 MBYG XX XX".
   * Aim the camera at a color bar chart illuminated at 1500 to 2000 lux.
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the Blue level is **350mVp-p ± 35mV.**
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.
   * The OSD shows "OK"





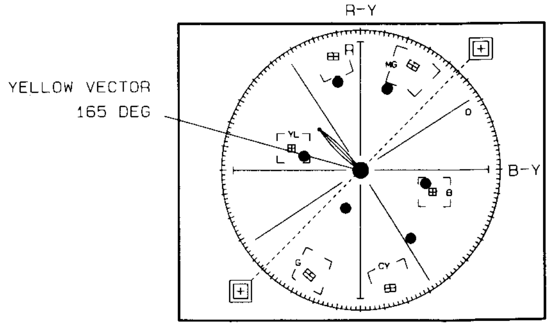
### 15 R-Y HUE

1. CAMERA "E-E", 3100°K color bar chart.
2. Video output jack & Register of EEPROM.
3. * Connect video output jack to vectorscope input jack and monitor TV jack respectively.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "26 MRHC XX XX".
   * Aim the camera at a color bar chart illuminated at 1500 to 2000 lux.
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the Red vector **105 ± 15 deg.**
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.
   * The OSD shows "OK".



### 16 B-Y HUE

1. CAMERA "E-E", 3100°K color bar chart.
2. Video output jack & Register of EEPROM.
3. * Connect video output jack to vectorscope input jack and monitor TV jack respectively.
   * Press the "PLAY (MODE UP)/STOP (MODE DOWN)" button so that the OSD state is "27 MBHC XX XX".
   * Aim the camera at a color bar chart illuminated at 1500 to 2000 lux.
   * Adjust the "SELF TIMER (DATA UP)/INT.REC (DATA DOWN)" button so that the Yellow vector **165 ± 15 deg.**
   * Be sure to press the "START/STOP (CONFIRM)" button to memorize setting.
   * The OSD shows "OK".



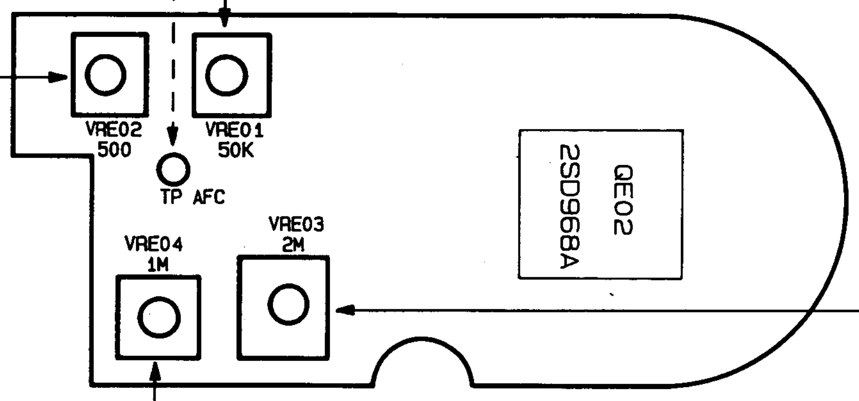
### 10-2-3. EVF Adjustment

**1 AFC**

1. VCR "PB", Alignment tape (Lion pattern).
2. TP AFC & VRE01.
3. * Connect digital voltmeter probe to TP AFC.
   * Adjust VRE01 so that the voltage is DC 2.5V.

**2 V. SIZE**

1. VCR "PB", Alignment tape (Lion pattern).
2. Viewfinder & VRE02.
3. * Adjust the VRE02 so that the center circle on the lion pattern is perfect circle.



E.V.F PCB (BOTTOM SIDE)

**4 FOCUS**

1. VCR "PB", Alignment tape (Lion pattern).
2. Viewfinder & VRE03.
3. * Adjust the VRE03 for best resolution in the viewfinder.

**3 BRIGHT**

1. VCR "PB", Alignment tape (Lion pattern).
2. Viewfinder & VRE04.
3. * Adjust the VRE04 so that the 3rd and 4th steps of the lion pattern can be distinguished.

## 10-3. VCR SECTION ADJUSTMENT

### 10-3-1. Preparations

**Note** : Before preforming all VCR section adjustment, insert TP Board into TP102 of Main PCB. (See Fig. 3)

Use the following measuring instruments for adjustment of the VCR block.

#### 1. Equipment to be used

1) Monitor TV
2) Dual trace oscilloscope of over 10MHz band, incorporates delay mode. (Use 10 : 1 probe unless otherwise specified)
3) Frequency counter
4) Pattern generator with video output terminal
5) Digital voltmeter
6) DC power supply
7) Alignment tape (Color Bar : SP)

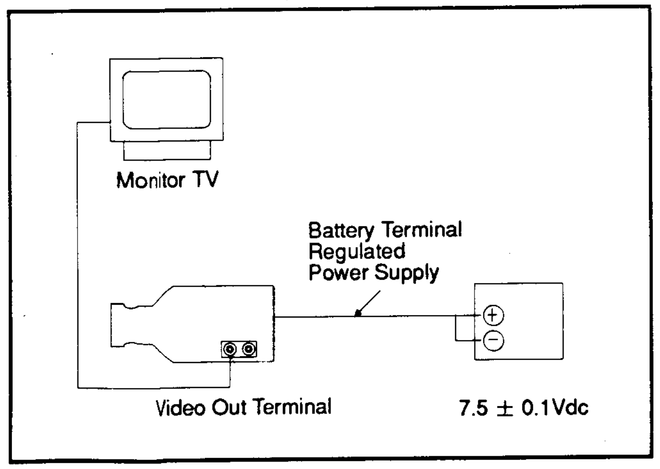
#### 2. Composition of VCR P.C.Boards

1) Main PCB (System Control/Servo, Video, Pre-Amp, Audio)
2) DC/DC Converter PCB

#### 3. Connection of equipment

Unless otherwise specified, adjustment is made with the measuring instrument connected as shown in the diagram below.

- CAMERA/VCR power switch . . . . . VCR position

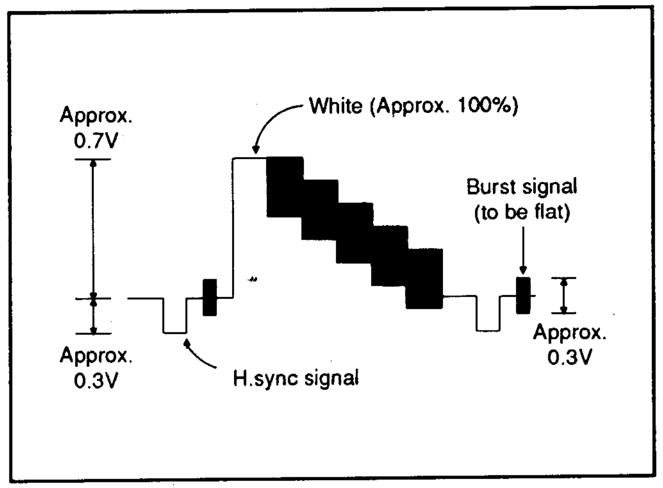


Monitor TV
Battery Terminal
Regulated
Power Supply
Video Out Terminal
7.5 ± 0.1Vdc

Fig. 1

#### 4. Set-up during adjustment

Since the video output signal obtained from the pattern generator is used as the adjusting signal for the VCR block, it is necessary that this video output signal be within the required specifications. Connect an oscilloscope to video input jack and make sure that the amplitude of the video SYNC signal is approximately 0.3V, that the video block amplitude is approximately 0.7V, that the burst signal amplitude is approximately 0.3V with flat characteristics, and the signal level ratio between the burst signal and "Red" signal is 0.30 : 0.66. The video signal (color bars) used for VCR block electrical adjustment are shown in Fig. 2.

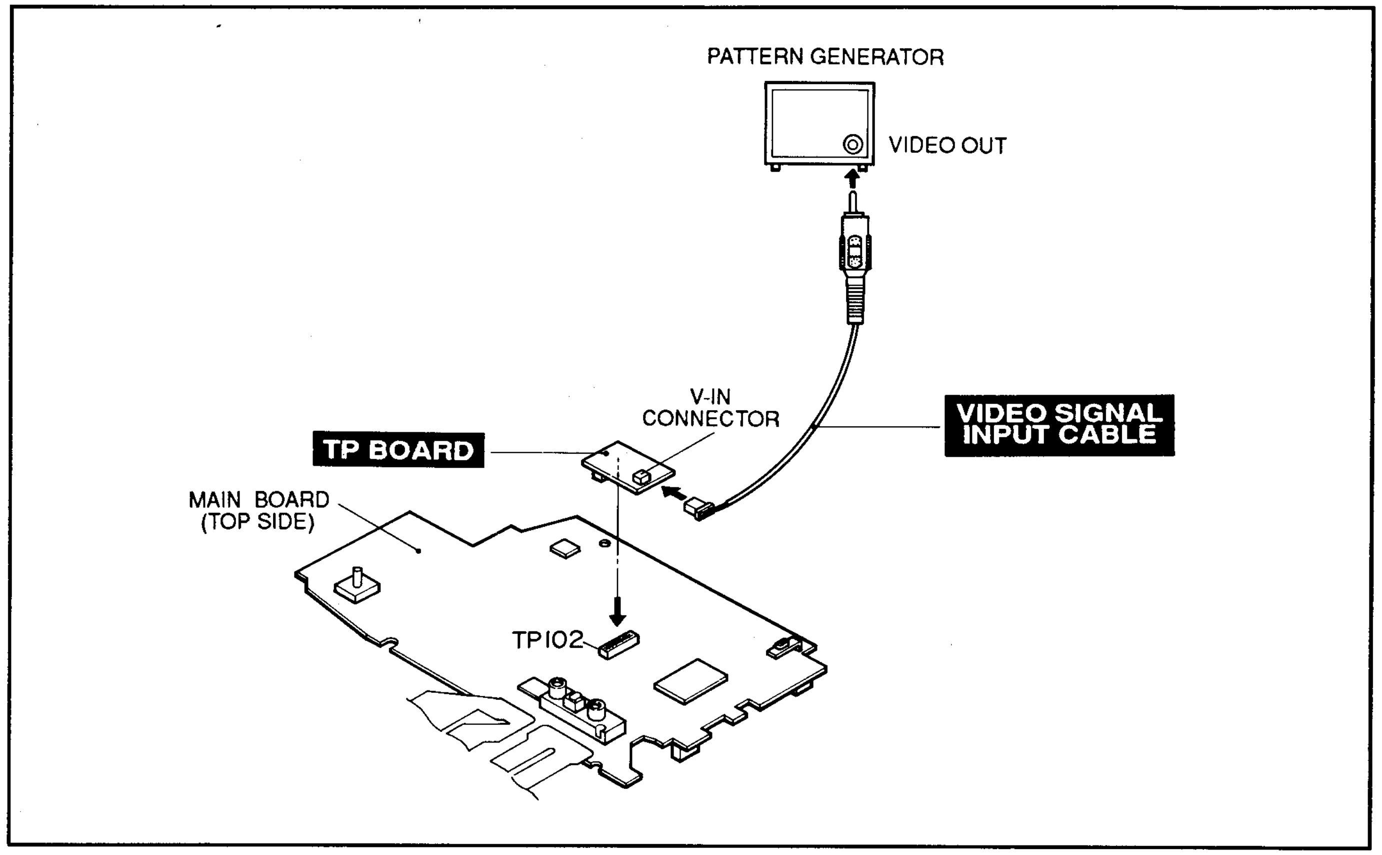


Approx.
0.7V
White (Approx. 100%)
Burst signal
(to be flat)
Approx.
0.3V
H.sync signal
Approx.
0.3V

Fig. 2 Color bar signal of pattern generator

#### 5. How to connect VCR adjustment jig

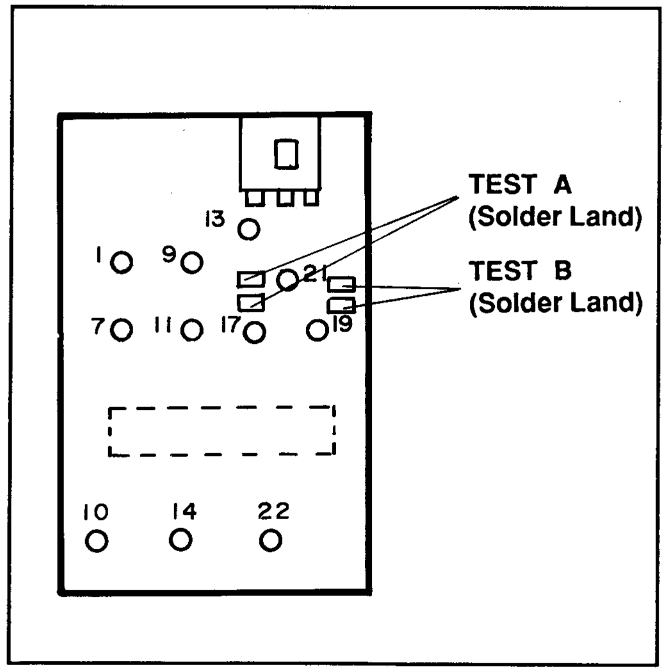
1) Insert TP Board into TP102 of Main PCB.
2) Connect Video Signal Input Cable between V-IN connector and video out of Pattern Generator to input video signal from Pattern Generator to TP Board as shown below.



PATTERN GENERATOR
VIDEO OUT
V-IN
CONNECTOR
VIDEO SIGNAL
INPUT CABLE
TP BOARD
MAIN BOARD
(TOP SIDE)
TP102

Fig. 3

#### 6. Detail drawing of TP Board

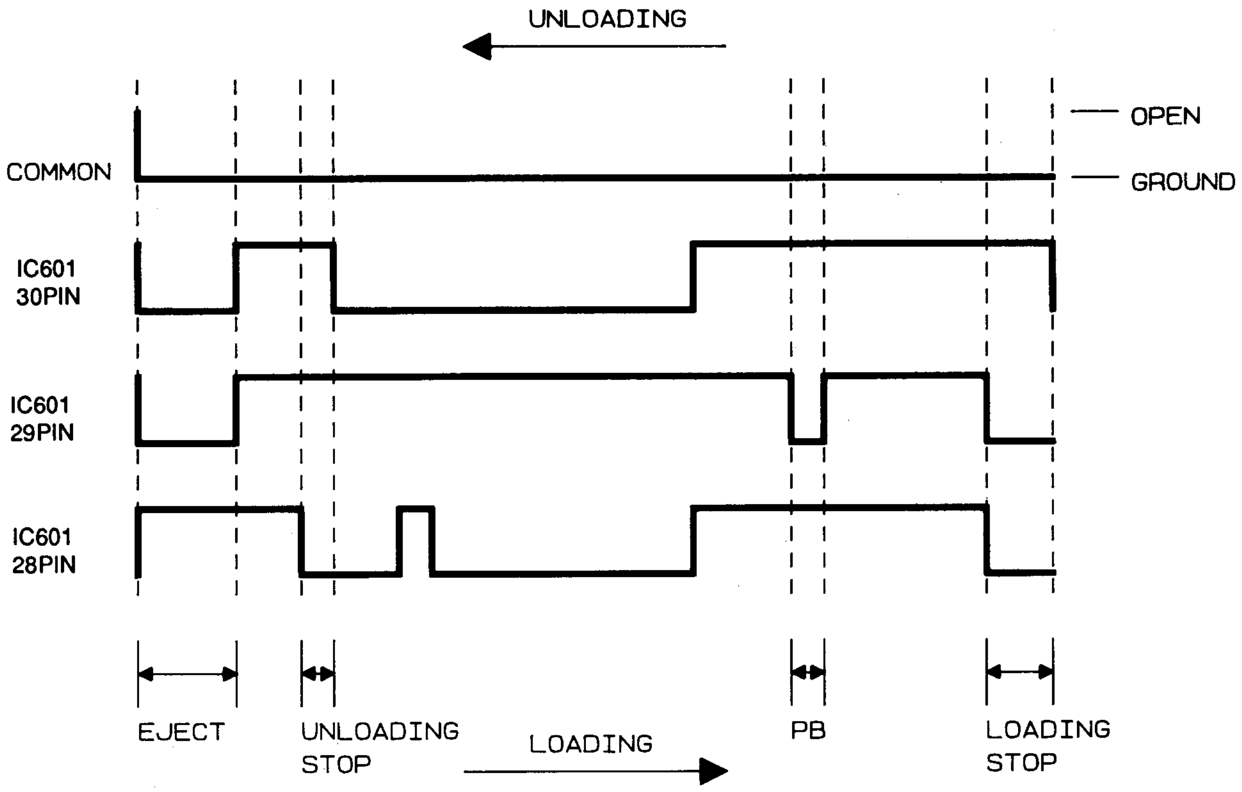


13
1
9
21
7
11
17
19
10
14
22
TEST A
(Solder Land)
TEST B
(Solder Land)

| Pin-NO. | Use | Remark |
|---|---|---|
| 1 | Carrier Frequency adjustment | Audio Section |
| 7 | Capstan FG adjustment | System/Servo Section |
| 9 | DC 5V adjustment | DC/DC CONV. Section |
| 10 | Emphasis Input Level adjustment | Video Section |
| 11 | DC 15V adjustment | DC/DC CONV. Section |
| 13 | Ground | - |
| 14 | Y/C Separation adjustment | Video Section |
| 17 | TEST A | Short pin 17 & pin 21 |
| 19 | TEST B | Short pin 19 & pin 21 |
| 21 | Ground | - |
| 22 | Head Switching Point adjustment | System/Servo Section |
|  | AGC adjustment | Video Section |
|  | PB Output Level adjustment | Video Section |

**TEST A** : For setting Head Switching Point adjustment
**TEST B** : For setting Record mode

## PROGRAM S/W TIMING CHART


UNLOADING
OPEN
GROUND
COMMON
IC601 30PIN
IC601 29PIN
IC601 28PIN
EJECT
UNLOADING STOP
LOADING
PB
LOADING STOP

| POSITION | IC601 30PIN | IC601 29PIN | IC601 28PIN | MODE |
|---|---|---|---|---|
| EJECT | L | L | H | EJECT |
| UNLOADING STOP | H | H | L | UNLOADING STOP |
| LOADING STOP | H | L | L | LOADING STOP |
| PB | H | L | H | PLAY, FF, REW, STILL... |

### 10-3-2. DC/DC CONVERTER Section

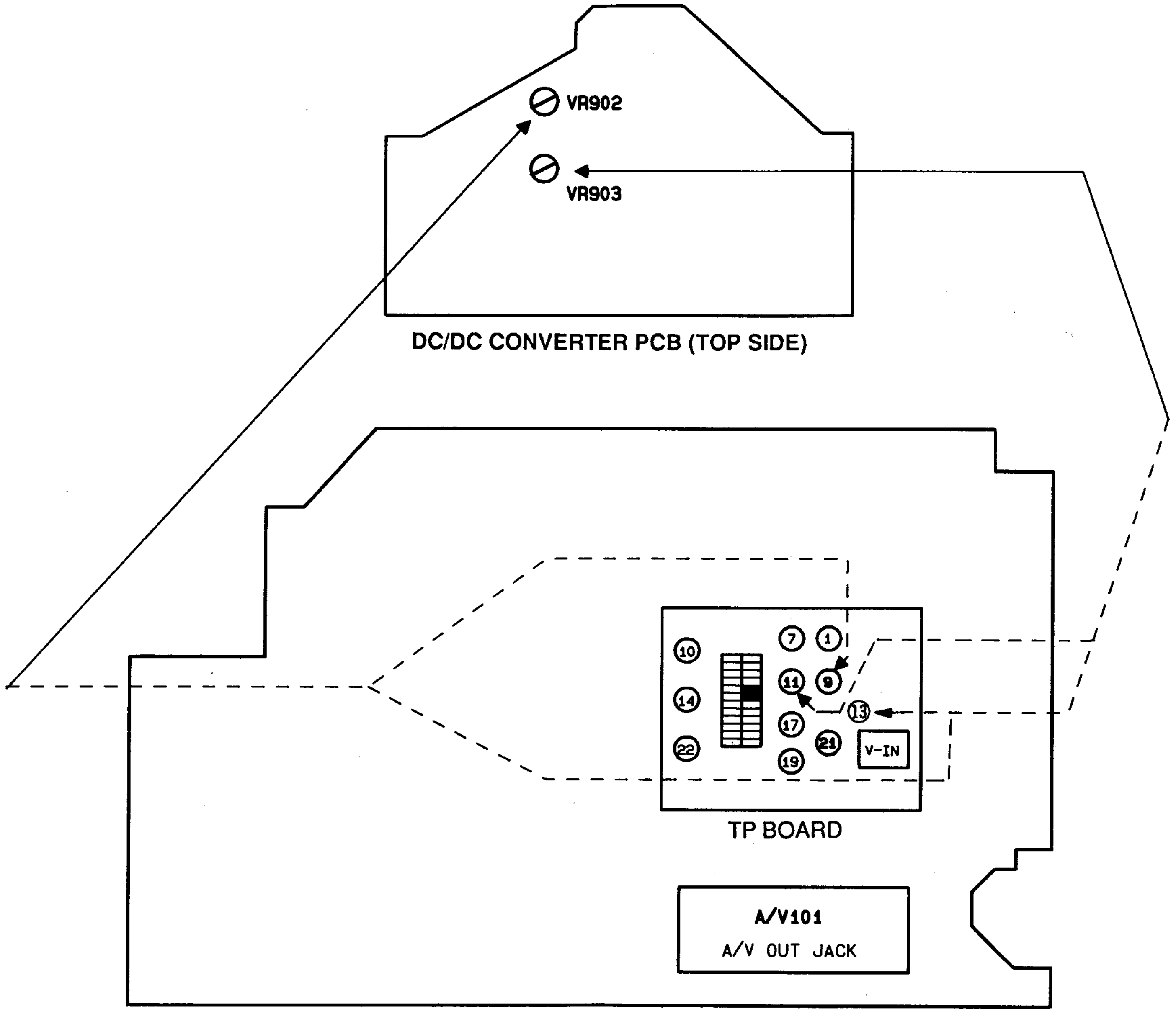
**NOTE**

From now on, the structure of every adjustment is as follows.

| STEP | ADJUSTMENT ITEM |
|---|---|
| | 1. MODE and INPUT SIGNAL/ALIGNMENT TAPE<br>2. TEST POINT and ADJ. part<br>3. RESULT & REMARKS |

ADJ. part →

Test Point ⇢


VR902
VR903
DC/DC CONVERTER PCB (TOP SIDE)
7
1
10
11
9
14
13
17
22
21
19
V-IN
TP BOARD
A/V101
A/V OUT JACK

VCR MAIN PCB (TOP SIDE)

**1 | DC 5V**

1. CAMERA, no signal input.
2. Pin 9(DC 5V), pin 13(Ground) of TP Board & VR902.
3. * Connect digital voltmeter probes to pin 9(DC 5V), pin 13 (Ground) of TP Board.
   * Adjust VR902 so that the digital voltmeter becomes DC 5.0 ± 0.05V.

**2 | DC 15V**

1. CAMERA, no signal input.
2. Pin 11(DC 15V), pin 13 (Ground) of TP Board & VR903
3. * Connect digital voltmeter probes to pin 11(DC 15V), pin 13 (Ground) of TP Board.
   * Adjust VR903 so that the digital voltmeter becomes DC 15.0 ± 1V.

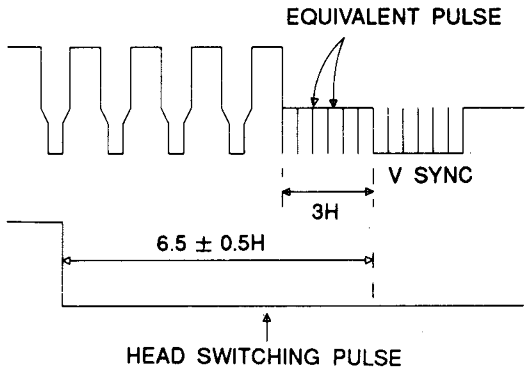
## 10-3-3. SYSTEM CONTROL/SERVO Section

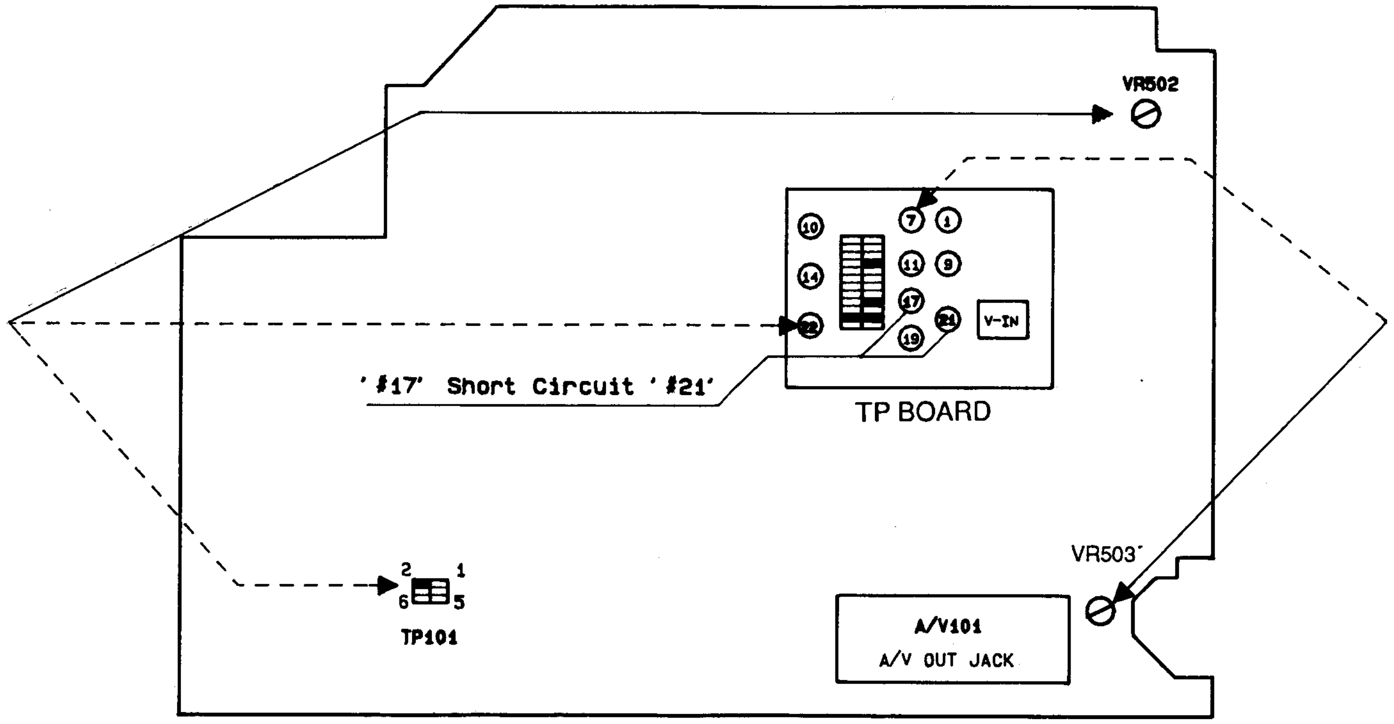
### 1 HEAD SWITCHING POINT

**ADJUSTMENT CONDITION**

◆ Short-circuit pin 17 and pin 21(TEST A) of TP Board.

1. "PB", Alignment tape (Color bar).
2. Pin 22 of TP Board, Pin 2 of TP101 (Trigger) & VR502.
3. * Connect an oscilloscope's CH-1 to pin 2 of TP101 for trigger and CH-2 to pin 22 of TP Board.
   * Adjust VR501 so that the switching point is positioned 6.5 ± 0.5H from the V-SYNC left edge as shown.

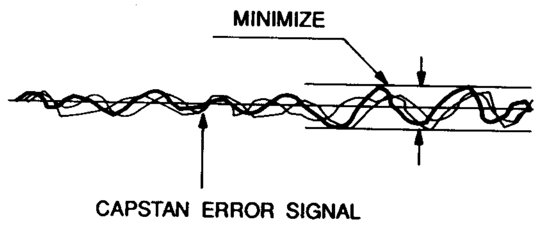

EQUIVALENT PULSE
V SYNC
3H
6.5 ± 0.5H
HEAD SWITCHING PULSE


VR502
10
14
22
7
1
11
9
17
24
19
V-IN
'#17' Short Circuit '#21'
TP BOARD
VR503
2
1
6
5
TP101
A/V101
A/V OUT JACK

VCR MAIN PCB (TOP SIDE)

### 2 CAPSTAN FG

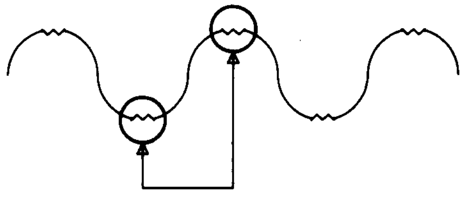
1. "LP-PB", Alignment tape (LP-Color bar).
2. Pin 7 of TP Board & VR503.
3. * Connect an oscilloscope to pin 7 of TP Board.
   * Adjust VR503 to minimize the width of voltage with LP-PB mode


MINIMIZE
CAPSTAN ERROR SIGNAL

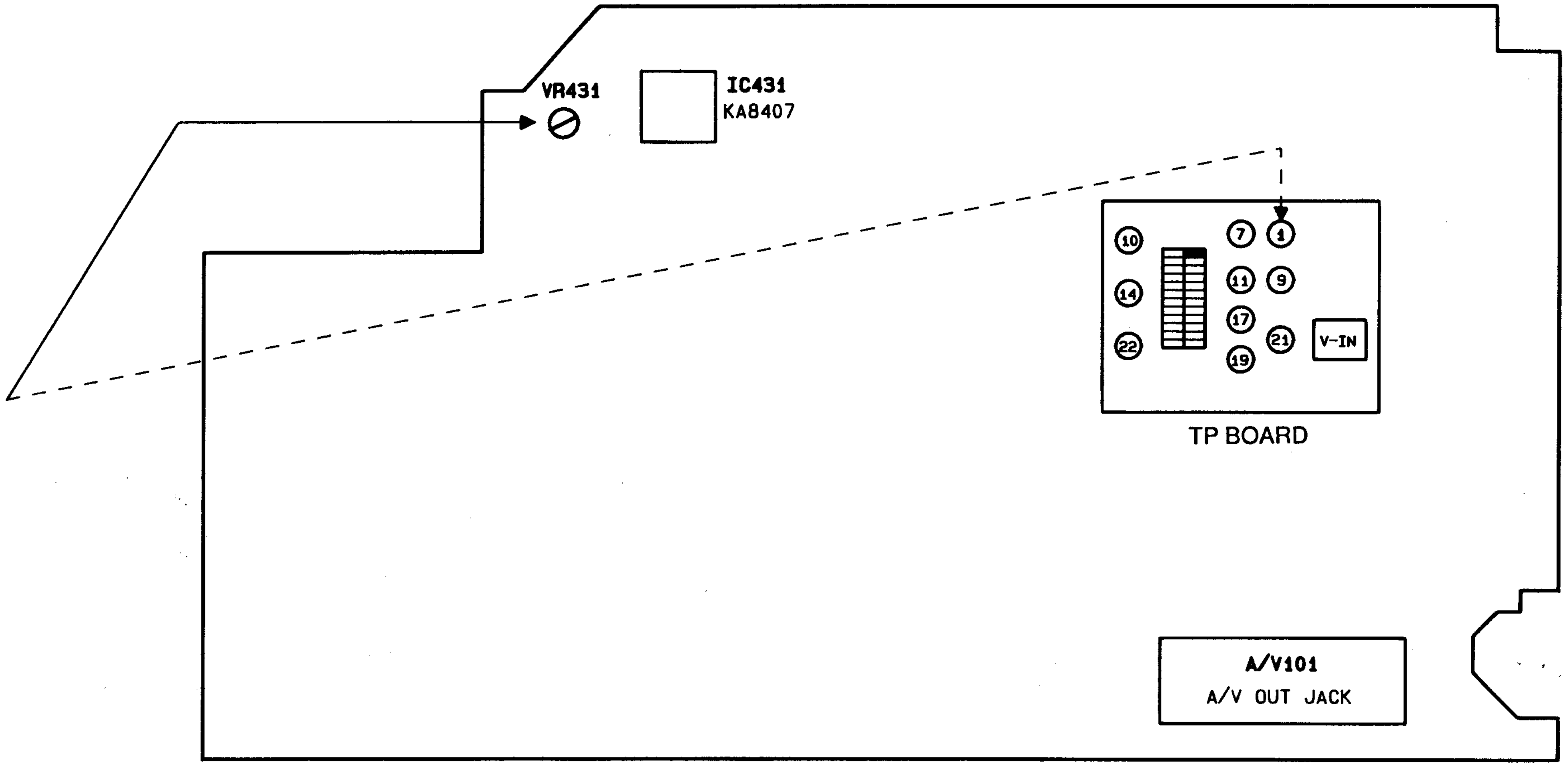
### 10-3-4. AUDIO Section

**1 CARRIER FREQUENCY**

1. "PB", Alignment tape (Color bar).
2. Pin 1 of TP Board & VR431.
3. * Connect an oscilloscope CH-1 to pin 1 of TP Board.
   * Adjust the output waveform to be complete sine wave and the noise level to be minimized.



AUDIO OUTPUT
DISTORTION MINIMIZE


VR431
IC431
KA8407
10
14
22
7
1
11
9
17
21
19
V-IN
TP BOARD
A/V101
A/V OUT JACK

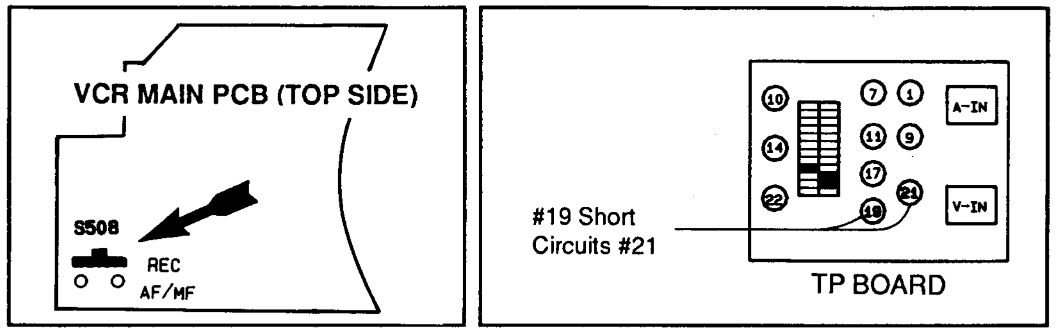
VCR MAIN PCB (TOP SIDE)

## 10-3-5. VIDEO Section

### HOW TO RECORD

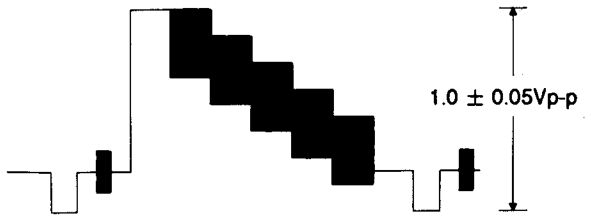
If you want to record at the VCR MODE.

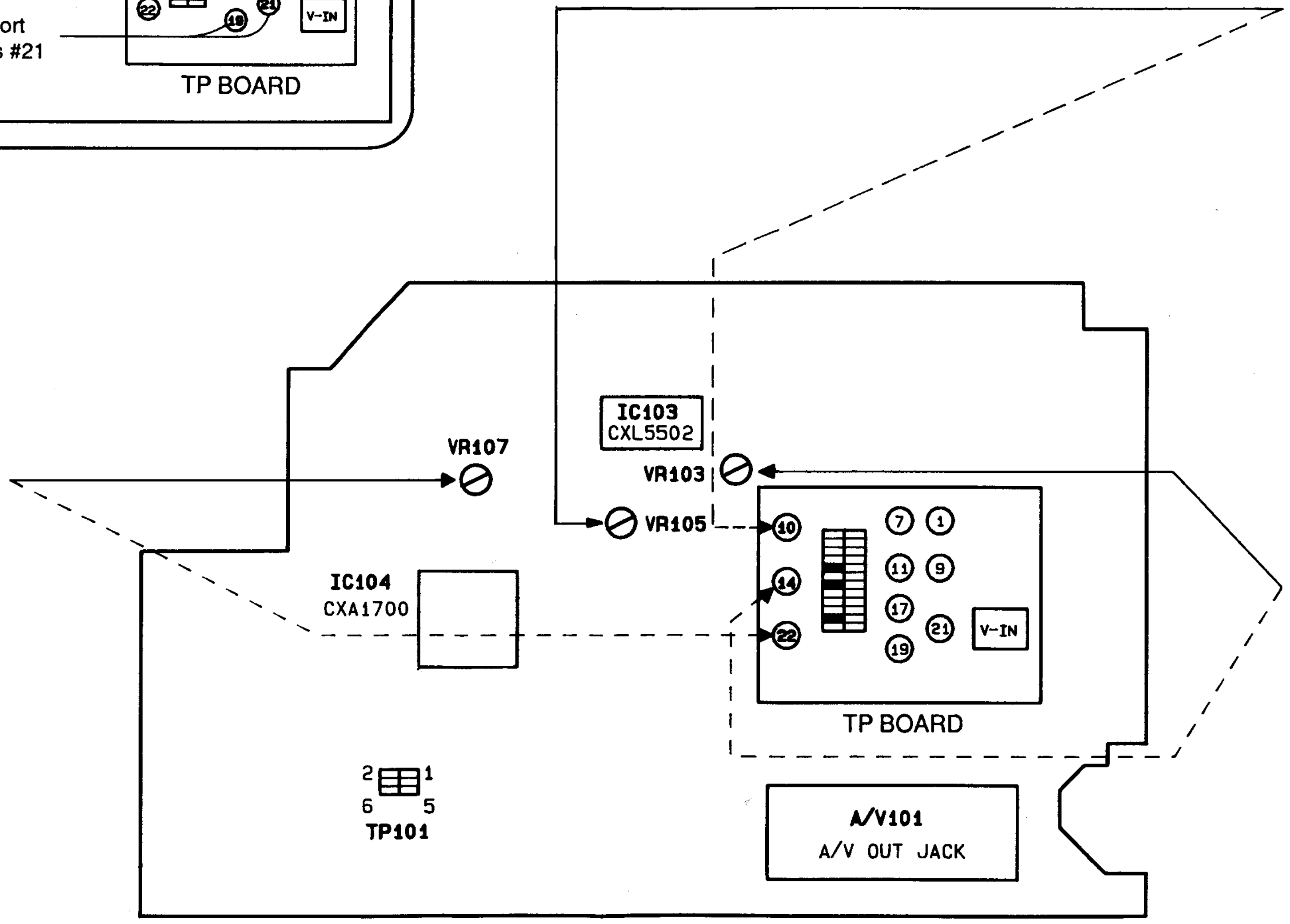
- Short-circurt between pin 19 and pin 21(TSET B) of TP Board.
- Press S508 (AF/MF) button.


VCR MAIN PCB (TOP SIDE)
S508
REC
AF/MF
#19 Short
Circuits #21
10
14
22
7
1
11
9
17
19
21
A-IN
V-IN
TP BOARD

### 1 AGC

1. "REC", 100% Color bar signal.
   (Input Method : Connect the video signal input cable to connector V-IN of TP Board)
2. Pin 22 of TP Board & VR107.
3. * Connect an oscilloscope to pin 22 of TP Board.
   * Adjust VR107 for 1.0 ± 0.05Vp-p from sync tip to white peak level.

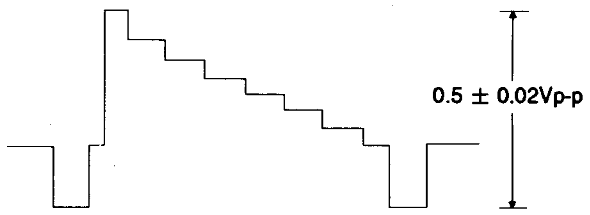



VR107
IC103
CXL5502
VR103
VR105
IC104
CXA1700
10
14
22
7
1
11
9
17
19
21
V-IN
TP BOARD
2
1
6
5
TP101
A/V101
A/V OUT JACK

VCR MAIN PCB (TOP SIDE)

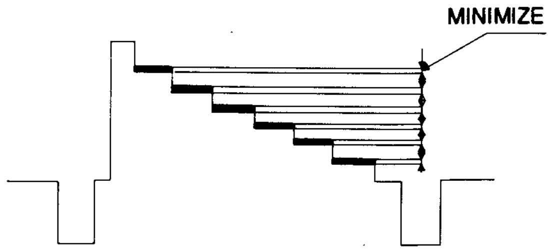
### 2 EMPHASIS INPUT LEVEL

1. "REC", 100% Color bar signal.
   (Input Method : Connect the video signal input cable to connector V-IN of TP Board)
2. Pin 10 of TP Board & VR105.
3. * Connect an oscilloscope to pin 10 of TP Board.
   * Adjust VR105 for 0.5 ± 0.02Vp-p from sync tip to white peak level.



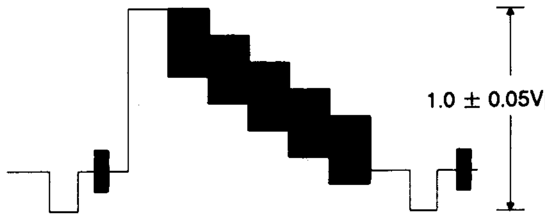
### 3 Y/C SEPARATION

1. "REC", 100% Color bar signal.
   (Input Method : Connect the video signal input cable to connector V-IN of TP Board)
2. Pin 14 of TP Board & VR103.
3. * Connect an oscilloscope to pin 14 of TP Board.



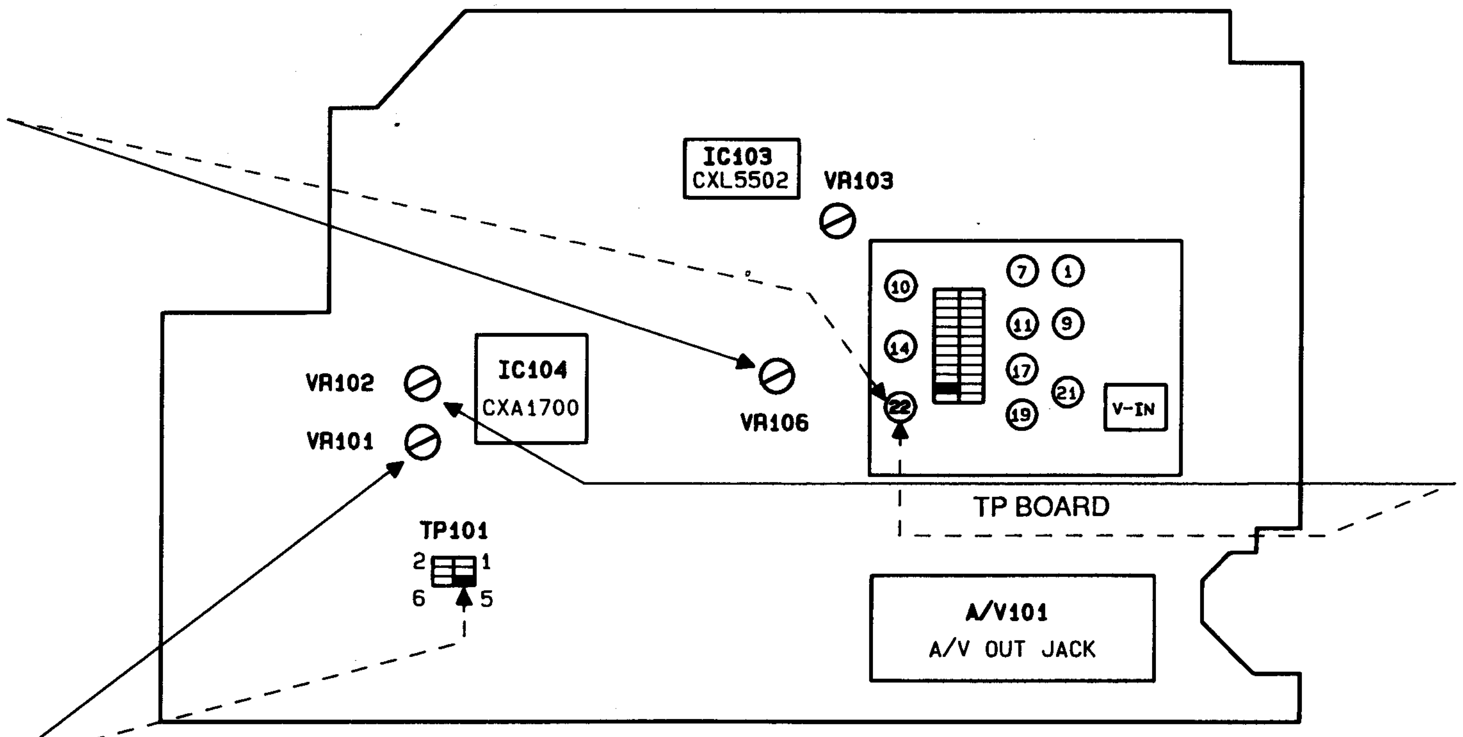
## 4 PB OUTPUT LEVEL

1. "PB", Alignment tape (Color bar).
2. Pin 22 of TP Board & VR106.
3. * Connect an oscilloscope to pin 22 of TP Board.
   * Adjust VR106 for 1.0 ± 0.05Vp-p from sync tip to white peak level.
   (The output jack must be connected to the monitor.)



## 5 Y-FM CARRIER FREQUENCY

1. "REC", No signal input.
2. Pin 5 of TP101 & VR101.
3. * Connect frequency probe to pin 5 of TP101.
   * Adjust VR101 so that the frequency is 4.39 ± 0.05MHz.


IC103
CXL5502
VR103
IC104
CXA1700
VR102
VR101
VR106
TP101
2
1
6
5
10
7
1
14
11
9
17
22
21
19
V-IN
TP BOARD
A/V101
A/V OUT JACK

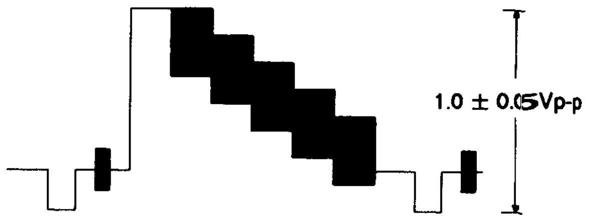
VCR MAIN PCB (TOP SIDE)

## 6 Y-FM DEVIATION

NOTE : Confirm that "PB OUTPUT LEVEL" and "Y FM CARRIER FREQUENCY" adjustment have been completed.

1. "REC → PB", 100% Color bar signal.
   (Input Method : Connect the video signal input cable to connector V-IN of TP Board)
2. Pin 22 of TP Board & VR102.
3. * Record the color bar signal.
   * Playback the recorded signal.
   * Confirm the playback output.
   (Specified value ; 1.0 ± 0.05Vp-p)
   * If the specified value is not satisfied, repeat *1 to 3 after turning VR102 in the following manner.

|  | Rotation direction of VR102 |
|---|---|
| When larger than specified value | Counterclockwise (↶) |
| When smaller than specified value | Clockwise (↷) |



# 11. P.C.BOARDS

Page

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11-2. DC/DC CONVERTER (BOTTOM SIDE)--------- 11-2

11-3. HOT SHOE (TOP SIDE) -------------------- 11-3

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11-5. REMOTE MODULE (TOP SIDE) -------------- 11-3

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11-7. MAIN (TOP SIDE) ------------------------ 11-4

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11-9. CCD (TOP SIDE) ----------------------- 11-6

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11-11. PROCESS (TOP SIDE)------------------- 11-7

11-12. PROCESS (BOTTOM SIDE)---------------- 11-7

11-13. EVF (TOP SIDE) ------------------------ 11-8

11-14. EVF (BOTTOM SIDE)--------------------- 11-8

**NOTE**

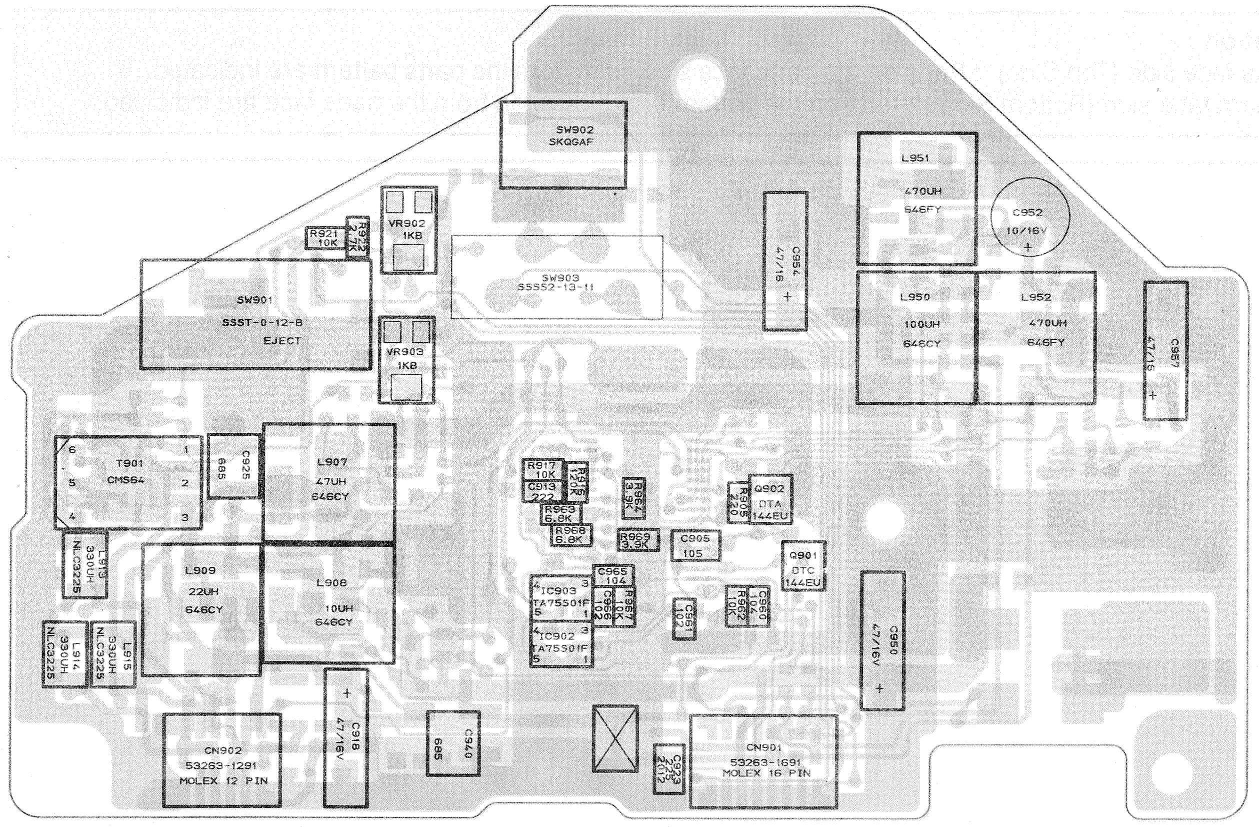
- For P.C.Board

▨ : Pattern from the side which enables seeing. (Blue color)

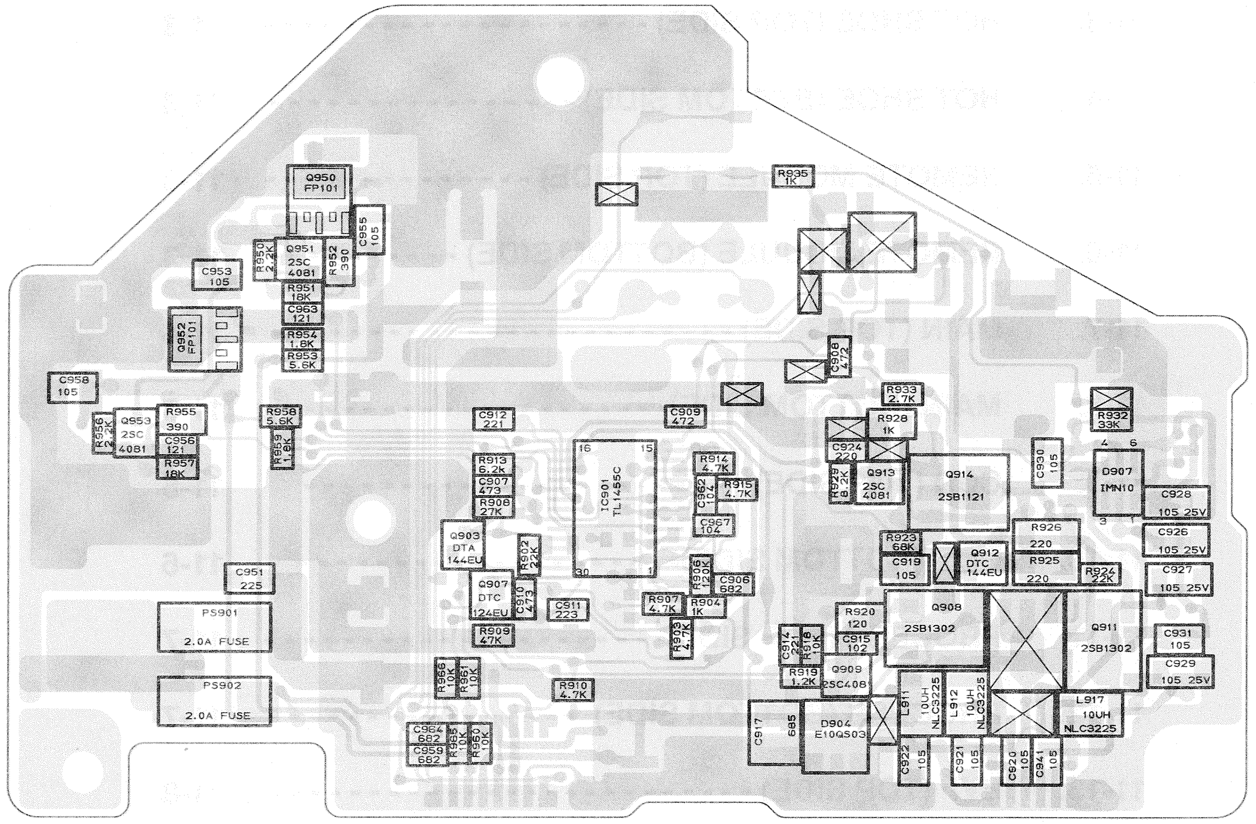
▨ : Pattern of the rear side. (Black color)

**Caution :**
Parts face side (Top Side) : Parts on the parts face side seen from the parts pattern are indicated.
Pattern face side (Bottom Side) : Parts on the pattern face side seen from the parts face are indicated.

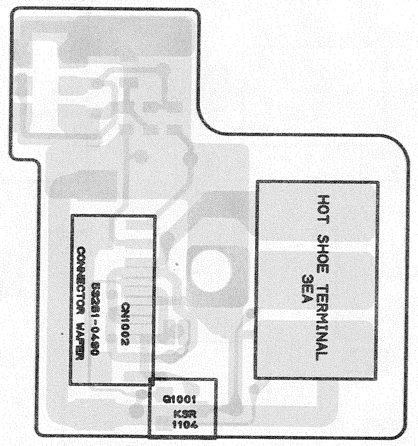
## 11-1. DC/DC CONVERTER (TOP SIDE)


SW902
SKQGAF
L951
470UH
646FY
C952
10/16V
R921
10K
VR902
1KB
SW903
SSSS2-13-11
C954
47/16
L950
100UH
646CY
L952
470UH
646FY
C957
47/16
SW901
SSST-0-12-B
EJECT
VR903
1KB
T901
CMS64
C925
685
L907
47UH
646CY
R917
10K
C913
222
R963
6.8K
R968
6.8K
R964
3.9K
R969
3.9K
R905
220
Q902
DTA
144EU
C905
105
Q901
DTC
144EU
L913
330UH
NLC3225
L909
22UH
646CY
L908
10UH
646CY
C965
104
IC903
TA75S01F
IC902
TA75S01F
C961
121
R902
10K
C960
47/16V
L915
330UH
NLC3225
L914
330UH
NLC3225
CN902
53263-1291
MOLEX 12 PIN
C918
47/16V
C940
685
CN901
53263-1691
MOLEX 16 PIN

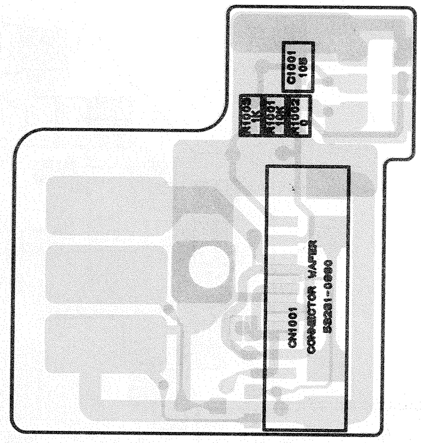
## 11-2. DC/DC CONVERTER (BOTTOM SIDE)


Q950
FP101
R935
1K
C953
105
R950
2.2K
Q951
2SC
4081
R952
390
C955
105
R951
18K
C963
121
Q952
FP101
R954
1.8K
R953
5.6K
C958
105
R956
2.2K
Q953
2SC
4081
R955
390
C956
121
R957
18K
R958
5.6K
R959
1.8K
C912
221
C909
472
C908
472
R933
2.7K
R928
1K
R932
33K
C974
220
R929
8.2K
Q913
2SC
4081
Q914
2SB1121
C930
105
D907
IMN10
C928
105 25V
C926
105 25V
R913
6.2K
C907
473
R908
27K
IC901
TL1455C
R914
4.7K
R915
4.7K
C962
104
C967
104
R926
220
R923
68K
C919
105
Q912
DTC
144EU
R925
220
R924
22K
C927
105 25V
Q903
DTA
144EU
R902
22K
C951
225
C906
682
Q907
DTC
124EU
C910
473
C911
223
R907
4.7K
R904
1K
R903
10K
R920
120
Q908
2SB1302
Q911
2SB1302
C931
105
C929
105 25V
PS901
2.0A FUSE
R909
47K
C914
221
R918
10K
C915
102
R919
1.2K
Q909
2SC4081
L911
10UH
NLC3225
L912
10UH
NLC3225
L917
10UH
NLC3225
PS902
2.0A FUSE
R910
4.7K
C964
682
C959
682
C917
685
D904
E10QS03
C922
105
C921
105
C920
105
C941
105

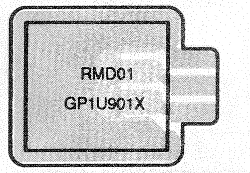
## 11-3. HOT SHOE (TOP SIDE)


HOT SHOE TERMINAL
3EA
CN1002
5S281-0480
CONNECTOR WAFER
Q1001
KSR
1104

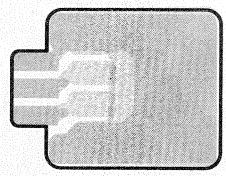
## 11-4. HOT SHOE (BOTTOM SIDE)


C1001
105
R1003
1K
R1001
10K
R1002
0
CN1001
CONNECTOR WAFER
5S281-0990

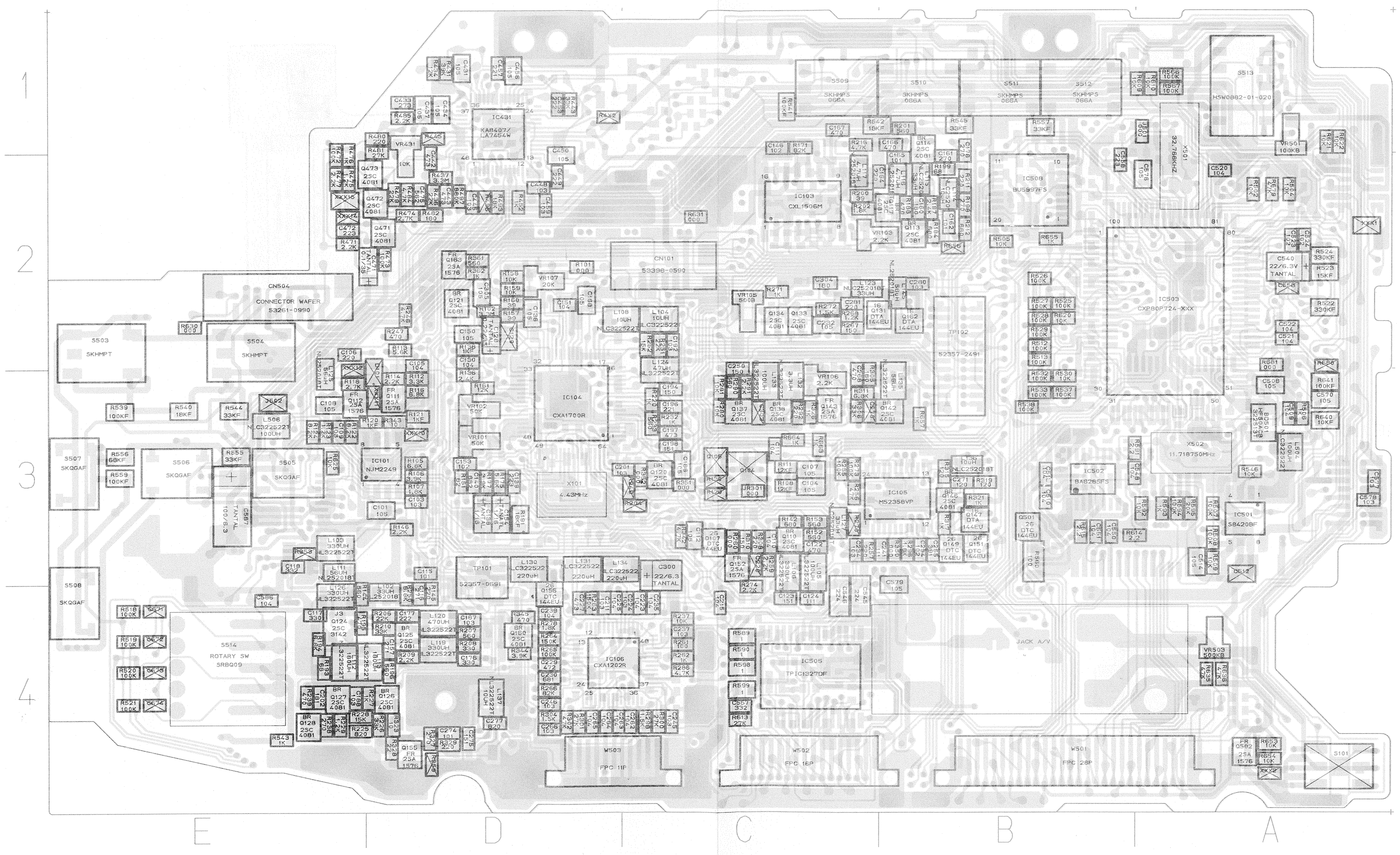
## 11-5. REMOTE MODULE (TOP SIDE)


RMD01
GP1U901X

## 11-6. REMOTE MODULE (BOTTOM SIDE)



## 11-7. MAIN (TOP SIDE)


1
2
3
4
E
D
C
B
A
CN504 CONNECTOR WAFER 53261-0990
IC431 KA8407/LA7454M
IC103 CXL1506M
IC508 BU5997FS
IC503 CXP80P724-XXX
X501 32.768KHz
S513 HSW0882-01-020
CN101 53398-0590
IC104 CXA1700R
IC101 NJM2249
X101 4.43MHz
IC105 M52358VP
IC502 BA6285FS
X502 11.718750MHz
IC501 S8420BF
S514 ROTARY SW SRBQ09
IC106 CXA1202R
IC505 TPIC1327DF
JACK A/V
W503 FPC 11P
W502 FPC 16P
W501 FPC 28P
S101

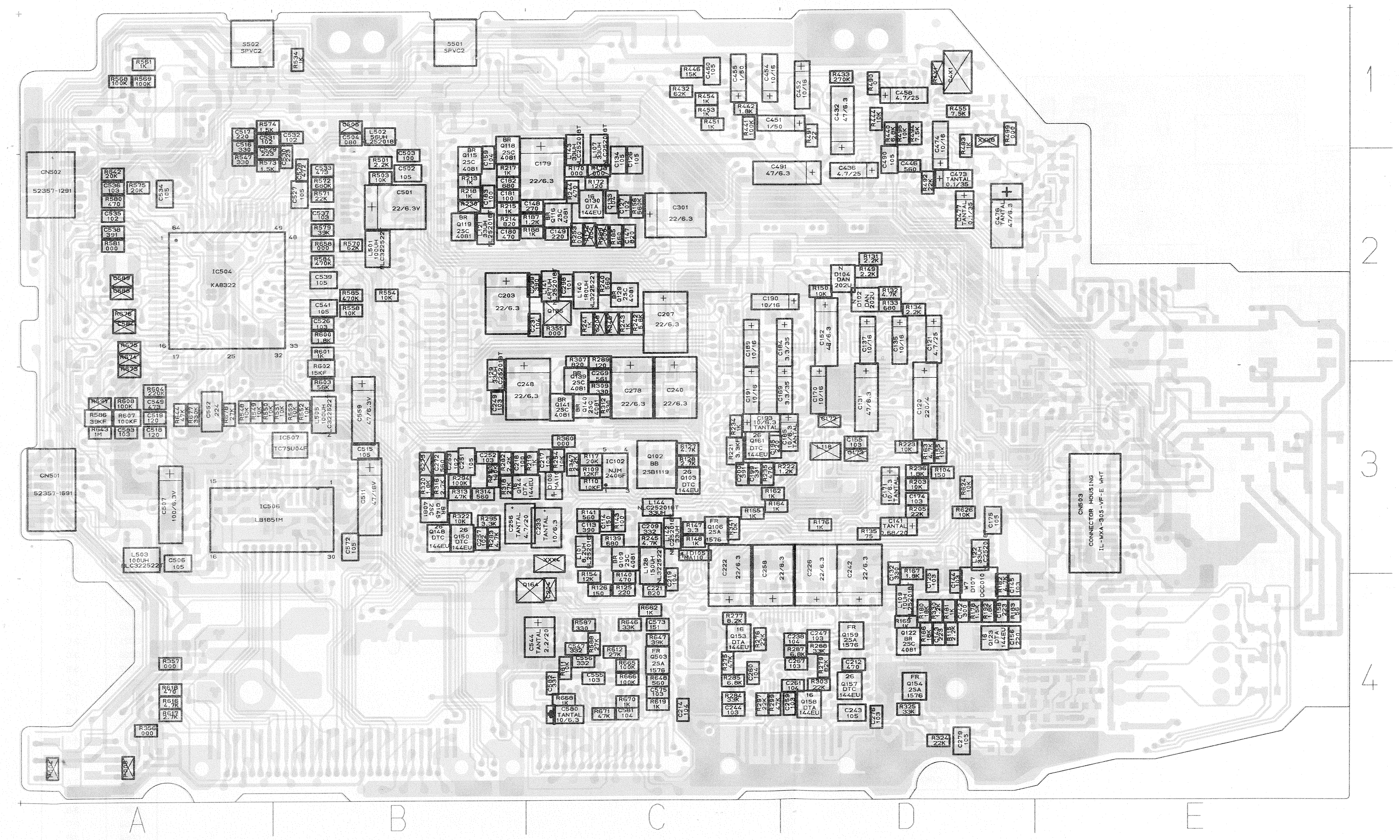
| LOCATION | COORDINATES |
|---|---|
| IC101 | 3-D |
| IC103 | 2-C |
| IC104 | 3-D |
| IC105 | 3-B |
| IC106 | 4-D |
| IC431 | 1-D |
| IC501 | 3-A |
| IC502 | 3-B |
| IC503 | 2-B |
| IC505 | 4-C |
| IC508 | 2-B |
| VR101 | 3-D |
| VR102 | 3-D |
| VR103 | 2-B |
| VR105 | 2-C |
| VR106 | 3-C |
| VR107 | 2-D |
| VR431 | 1-D |
| VR501 | 1-A |
| VR503 | 4-A |

| LOCATION | COORDINATES |
|---|---|
| L102 | 3-D |
| L103 | 3-E |
| L104 | 2-C |
| L105 | 3-C |
| L106 | 3-C |
| L108 | 2-C |
| L111 | 3-E |
| L112 | 4-E |
| L113 | 4-D |
| L114 | 2-B |
| L115 | 2-B |
| L116 | 2-B |
| L117 | 2-C |
| L119 | 4-D |
| L120 | 4-D |
| L123 | 2-C |
| L124 | 2-C |
| L125 | 2-E |
| L126 | 3-E |
| L127 | 3-C |
| L130 | 3-D |
| L131 | 3-D |
| L132 | 3-C |
| L133 | 3-C |
| L134 | 3-D |
| L135 | 3-B |
| L136 | 3-B |
| L137 | 4-D |
| L504 | 3-A |
| L506 | 3-E |

| LOCATION | COORDINATES |
|---|---|
| Q107 | 3-C |
| Q110 | 3-C |
| Q111 | 3-D |
| Q114 | 1-B |
| Q117 | 2-B |
| Q121 | 2-D |
| Q124 | 4-E |
| Q125 | 4-D |
| Q126 | 4-D |
| Q127 | 4-E |
| Q128 | 4-E |
| Q133 | 2-C |
| Q134 | 2-C |
| Q137 | 3-C |
| Q138 | 3-C |
| Q142 | 3-B |
| Q143 | 3-C |
| Q146 | 3-B |
| Q147 | 3-B |
| Q149 | 3-B |
| Q151 | 3-B |
| Q152 | 3-C |
| Q155 | 4-D |
| Q156 | 4-D |
| Q160 | 4-D |
| Q471 | 2-D |
| Q472 | 2-D |
| Q473 | 2-D |
| Q501 | 3-B |
| Q502 | 4-A |

| LOCATION | COORDINATES |
|---|---|
| C128 | 2-D |
| C138 | 3-D |
| C154 | 3-D |
| C300 | 3-C |
| C471 | 2-D |
| C540 | 2-A |
| C545 | 3-C |
| C546 | 3-C |
| C567 | 3-E |

## 11-8. MAIN (BOTTOM SIDE)

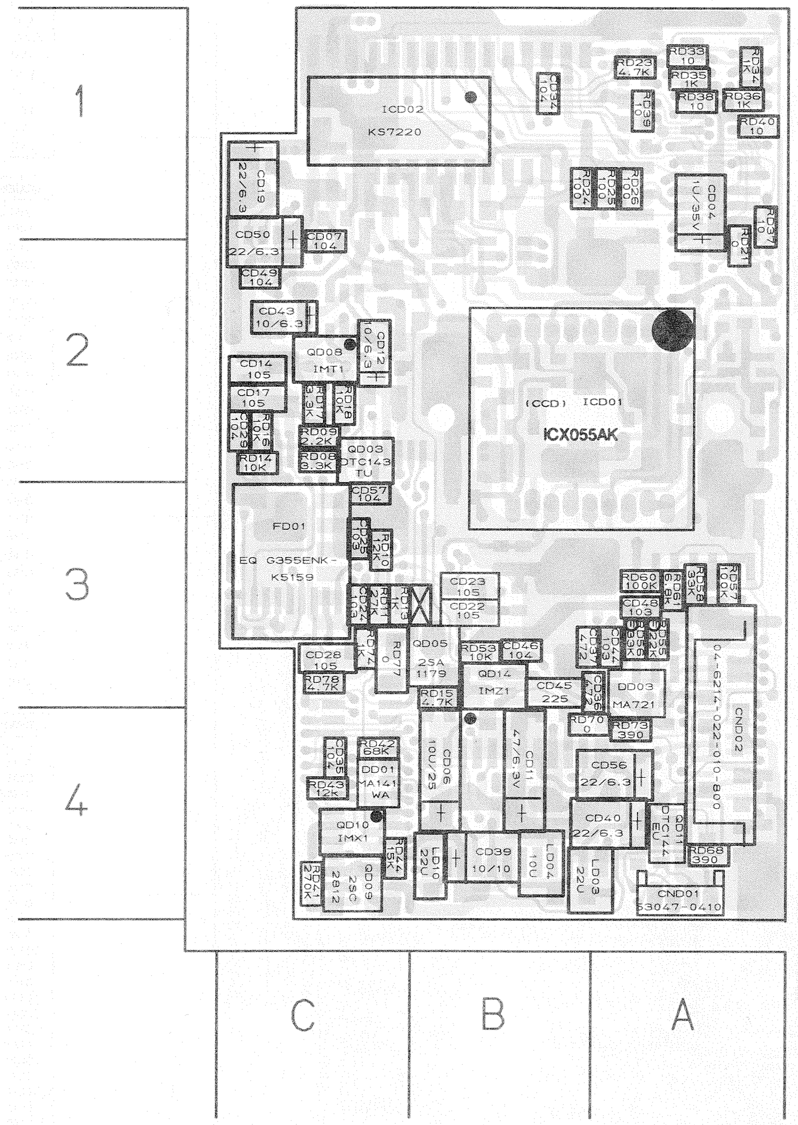

1
2
3
4
A
B
C
D
E
S502 SPVC2
S501 SPVC2
CN502 52357-1291
CN501 52357-1691
IC504 KA8322
IC506 LB1651M
IC507 TC75U04F
IC102 NJM 2406F
Q102 BB 2SB1119
CN503 CONNECTOR HOUSING IL-WXA-30S-VF-E WHT
C501 22/6.3V
C179 22/6.3
C301 22/6.3
C203 22/6.3
C207 22/6.3
C248 22/6.3
C278 22/6.3
C240 22/6.3
C222 22/6.3
C258 22/6.3
C226 22/6.3
C242 22/6.3
C491 47/6.3
C436 4.7/25
C476 TANTAL 47/6.3
C507 100/6.3V
C511 47/16V
C559 47/6.3V
L503 100UH LC322522
L501 100UH LC322522
L502 56UH 252018T
L144 NLC252018T 33UH

| LOCATION | COORDINATES |
|---|---|
| IC102 | 3-C |
| IC504 | 2-B |
| IC506 | 3-A |
| IC507 | 3-B |
| L101 | 3-C |
| L107 | 1-C |
| L109 | 4-D |
| L118 | 3-D |
| L121 | 2-B |
| L122 | 3-D |
| L128 | 3-C |
| L129 | 2-B |
| L140 | 2-C |
| L141 | 2-C |
| L142 | 3-C |
| L143 | 1-C |
| L144 | 3-C |
| L501 | 2-B |
| L502 | 1-B |
| L503 | 3-B |
| L505 | 2-B |

| LOCATION | COORDINATES |
|---|---|
| Q102 | 3-C |
| Q103 | 3-C |
| Q106 | 3-C |
| Q109 | 3-C |
| Q115 | 1-B |
| Q116 | 2-C |
| Q118 | 1-B |
| Q119 | 2-B |
| Q122 | 4-D |
| Q123 | 4-D |
| Q129 | 2-C |
| Q130 | 2-C |
| Q136 | 2-C |
| Q139 | 3-C |
| Q140 | 3-C |
| Q141 | 3-C |
| Q144 | 3-B |
| Q145 | 3-B |
| Q146 | 3-B |
| Q150 | 3-B |
| Q153 | 4-C |
| Q154 | 4-D |
| Q157 | 4-D |
| Q158 | 4-D |
| Q159 | 3-D |
| Q161 | 3-C |
| Q503 | 4-C |

| LOCATION | COORDINATES |
|---|---|
| C120 | 3-D |
| C121 | 2-D |
| C131 | 3-D |
| C135 | 2-D |
| C137 | 2-D |
| C141 | 3-D |
| C152 | 2-D |
| C169 | 2-D |
| C170 | 3-D |
| C171 | 3-D |
| C179 | 2-C |
| C184 | 2-D |
| C185 | 3-D |
| C189 | 2-C |
| C190 | 2-C |
| C191 | 3-C |
| C193 | 3-C |
| C203 | 2-B |
| C207 | 2-C |
| C222 | 3-C |
| C226 | 3-D |
| C233 | 3-C |
| C240 | 3-C |
| C242 | 3-D |
| C248 | 3-B |
| C256 | 3-B |
| C258 | 3-C |
| C278 | 3-C |
| C301 | 2-C |
| C432 | 1-D |
| C436 | 2-D |
| C451 | 1-C |
| C452 | 1-D |
| C454 | 1-C |
| C455 | 1-C |
| C458 | 1-D |
| C473 | 2-D |
| C474 | 1-D |
| C476 | 2-D |
| C477 | 2-D |
| C491 | 2-D |
| C501 | 2-B |
| C507 | 3-A |
| C511 | 3-B |
| C544 | 4-C |
| C559 | 3-B |
| C580 | 4-C |

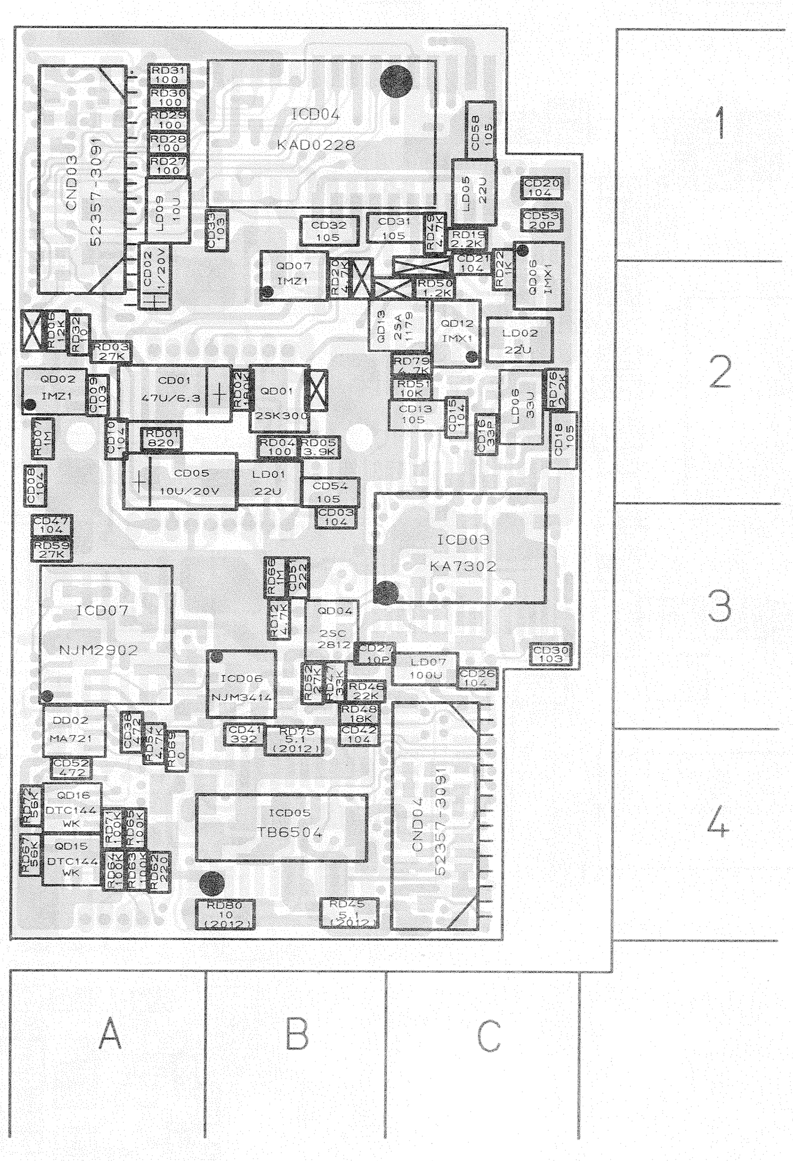
## 11-9. CCD (TOP SIDE)


1
2
3
4
C
B
A
ICD02
KS7220
(CCD) ICD01
ICX055AK
FD01
EQ G355ENK-K5159
CND01
53047-0410
CND02
QD05
QD14
DD03
MA721
QD10
IMX1
DD01
MA141WA
QD08
IMT1
QD03
DTC143

| LOCATION | COORDINATES |
|---|---|
| CND01 | 4-A |
| CND02 | 4-A |
| DD01 | 4-C |
| DD03 | 4-A |
| FD01 | 3-C |
| ICD01 | 2-B |
| ICD02 | 1-C |
| LD03 | 4-A |
| LD04 | 4-B |
| LD10 | 4-B |
| QD03 | 2-C |
| QD05 | 3-B |
| QD08 | 2-C |
| QD09 | 4-C |
| QD10 | 4-C |
| QD11 | 4-A |
| QD14 | 3-B |

| LOCATION | COORDINATES |
|---|---|
| CD04 | 1-A |
| CD06 | 4-B |
| CD07 | 1-C |
| CD11 | 4-B |
| CD12 | 2-C |
| CD14 | 2-C |
| CD17 | 2-C |
| CD19 | 1-C |
| CD22 | 3-B |
| CD23 | 3-B |
| CD24 | 3-C |
| CD25 | 3-C |
| CD28 | 3-C |
| CD29 | 2-C |
| CD34 | 1-B |
| CD35 | 4-C |
| CD36 | 3-A |
| CD37 | 3-A |
| CD39 | 4-B |
| CD40 | 4-A |
| CD43 | 2-C |
| CD44 | 3-A |
| CD45 | 3-B |
| CD46 | 3-B |
| CD48 | 3-A |
| CD49 | 2-C |
| CD50 | 1-C |
| CD56 | 4-A |
| CD57 | 3-C |

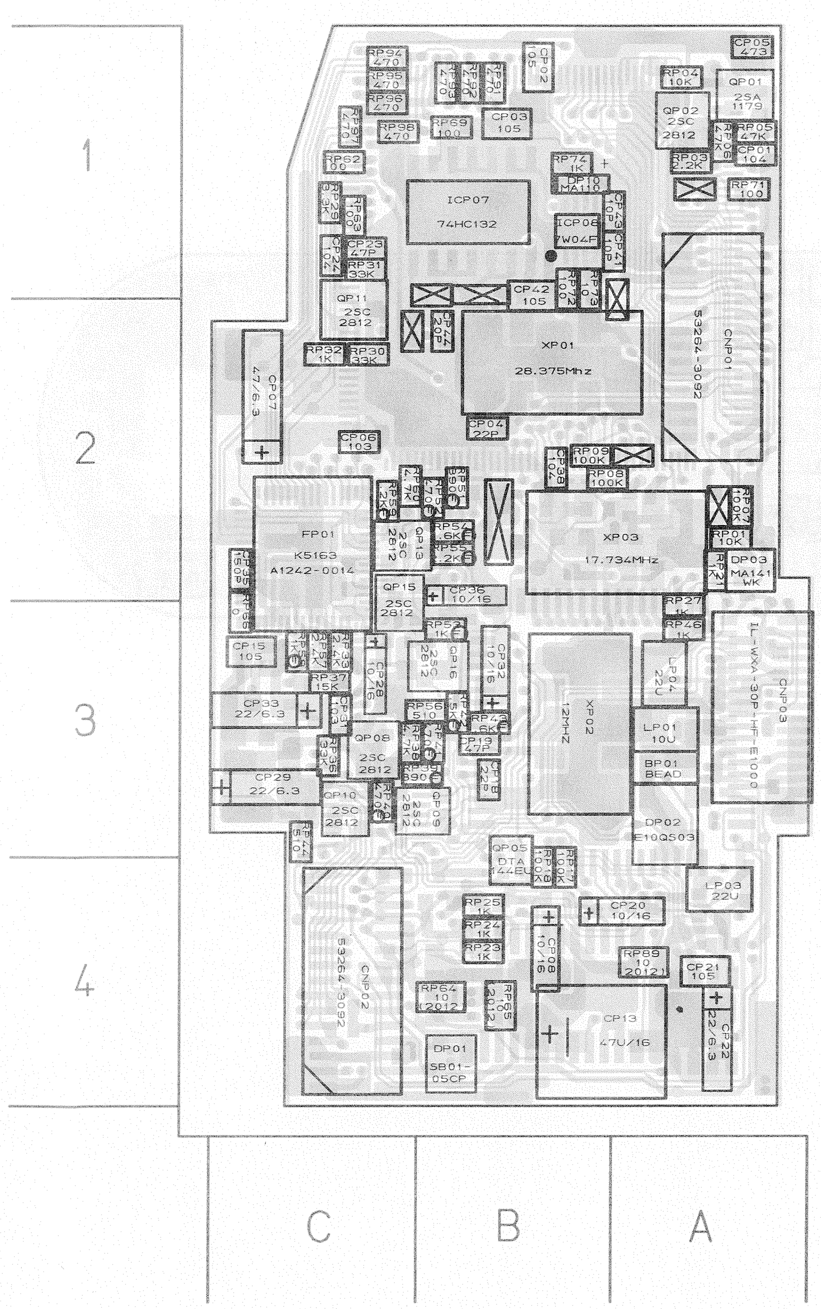
## 11-10. CCD (BOTTOM SIDE)


1
2
3
4
A
B
C
ICD04
KAD0228
CND03
52357-3091
ICD03
KA7302
ICD07
NJM2902
ICD06
NJM3414
ICD05
TB6504
CND04
52357-3091
DD02
MA721
QD01
2SK300
QD02
IMZ1
QD07
IMZ1
QD12
IMX1
QD04
2SC2812
QD16
DTC144WK
QD15
DTC144WK

| LOCATION | COORDINATES |
|---|---|
| CND03 | 1-A |
| CND04 | 4-C |
| DD02 | 4-A |
| LD01 | 2-B |
| LD02 | 2-C |
| LD05 | 1-C |
| LD06 | 2-C |
| LD07 | 3-C |
| LD09 | 1-A |
| ICD03 | 3-C |
| ICD04 | 1-B |
| ICD05 | 4-B |
| ICD06 | 3-B |
| ICD07 | 3-A |
| QD01 | 2-B |
| QD02 | 2-A |
| QD04 | 3-B |
| QD06 | 2-C |
| QD07 | 2-B |
| QD12 | 2-C |
| QD13 | 2-C |
| QD15 | 4-A |
| QD16 | 2-B |

| LOCATION | COORDINATES |
|---|---|
| CD01 | 2-A |
| CD02 | 2-A |
| CD03 | 3-B |
| CD05 | 2-A |
| CD08 | 2-A |
| CD09 | 2-A |
| CD10 | 2-A |
| CD13 | 2-C |
| CD15 | 2-C |
| CD16 | 2-C |
| CD18 | 2-C |
| CD20 | 1-C |
| CD21 | 2-C |
| CD26 | 3-C |
| CD27 | 3-B |
| CD30 | 3-C |
| CD31 | 1-C |
| CD32 | 1-B |
| CD33 | 1-B |
| CD38 | 4-A |
| CD41 | 4-B |
| CD42 | 4-B |
| CD47 | 3-A |
| CD52 | 4-A |
| CD51 | 3-B |
| CD53 | 1-C |
| CD54 | 3-B |
| CD58 | 1-C |

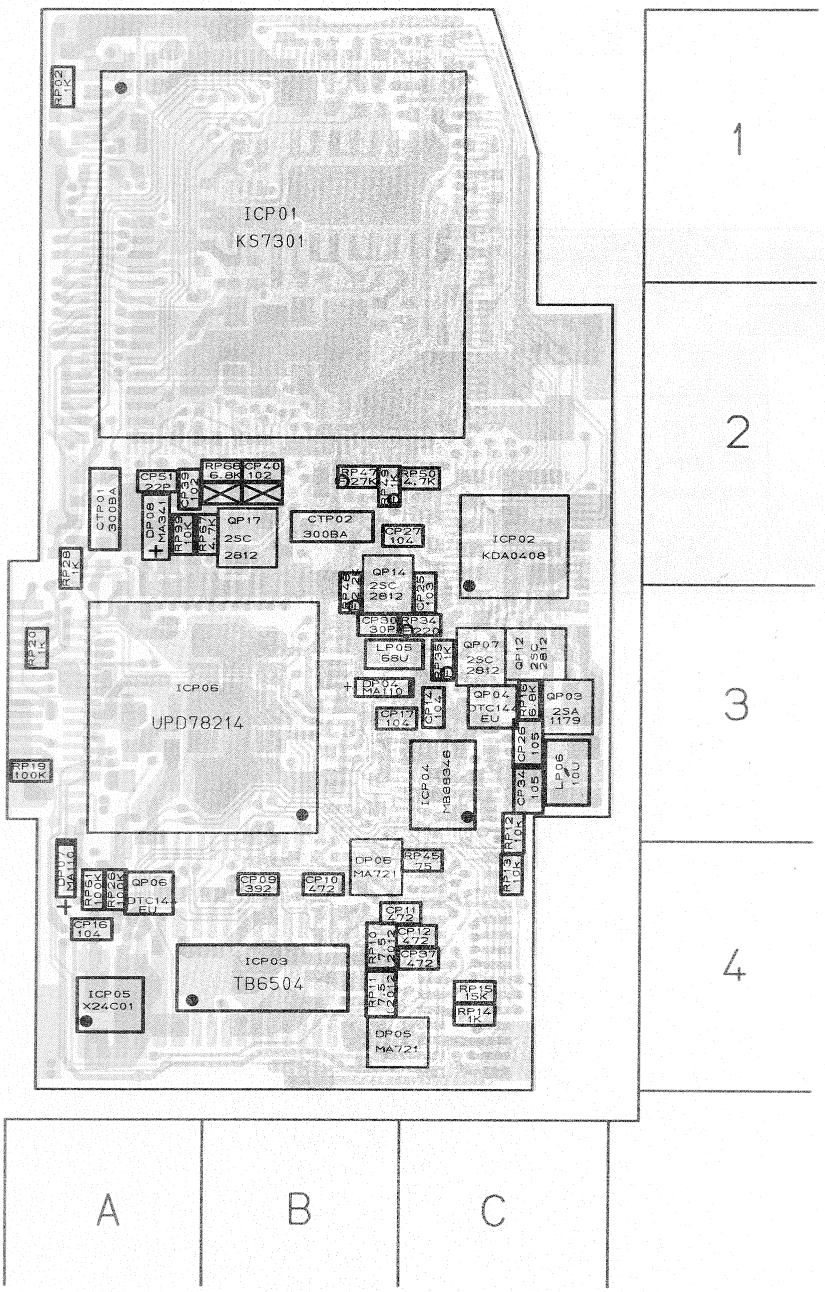
## 11-11. PROCESS (TOP SIDE)


1
2
3
4
C
B
A
ICP07
74HC132
ICP08
7W04F
XP01
28.375MHz
XP03
17.734MHz
XP02
FP01
KS163
A1242-0014
CNP01
CNP02
CNP03
CP13
47U/16
DP01
DP02
LP01
10U
LP03
22U
BP01
BEAD

| LOCATION | COORDINATES |
|---|---|
| CNP01 | 2-A |
| CNP02 | 4-C |
| CNP03 | 3-A |
| DP01 | 4-B |
| DP02 | 3-A |
| DP03 | 2-A |
| DP10 | 1-B |
| FP01 | 2-C |
| ICP07 | 1-B |
| ICP08 | 1-B |
| LP01 | 3-A |
| LP03 | 4-A |
| LP04 | 3-A |
| QP01 | 1-A |
| QP02 | 1-A |
| QP05 | 4-B |
| QP08 | 3-C |
| QP09 | 3-B |
| QP10 | 3-C |
| QP11 | 1-C |
| QP13 | 2-C |
| QP15 | 3-C |
| QP16 | 3-B |
| XP01 | 2-B |
| XP02 | 3-B |
| XP03 | 2-B |

| LOCATION | COORDINATES |
|---|---|
| CP01 | 1-A |
| CP02 | 1-B |
| CP03 | 1-B |
| CP04 | 2-B |
| CP05 | 1-A |
| CP06 | 2-C |
| CP07 | 2-C |
| CP08 | 4-B |
| CP13 | 4-A |
| CP15 | 3-C |
| CP18 | 3-B |
| CP19 | 3-B |
| CP20 | 4-A |
| CP21 | 4-A |
| CP22 | 4-A |
| CP23 | 1-C |
| CP24 | 1-C |
| CP28 | 3-C |
| CP29 | 3-C |
| CP31 | 3-C |
| CP32 | 3-B |
| CP33 | 3-C |
| CP35 | 2-C |
| CP36 | 3-B |
| CP38 | 2-B |
| CP41 | 1-B |
| CP42 | 1-B |
| CP43 | 1-B |
| CP44 | 2-B |

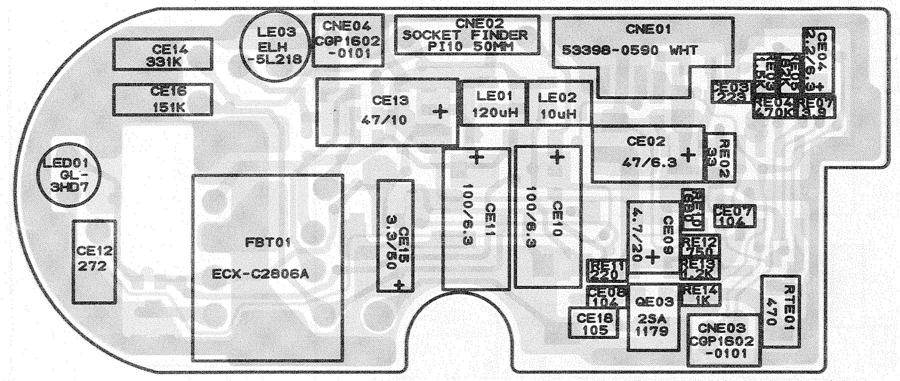
## 11-12. PROCESS (BOTTOM SIDE)


1
2
3
4
A
B
C
ICP01
KS7301
ICP02
KDA0408
ICP06
UPD78214
ICP03
TB6504
ICP05
X24C01
CTP02
300BA
DP05
MA721
DP06
MA721

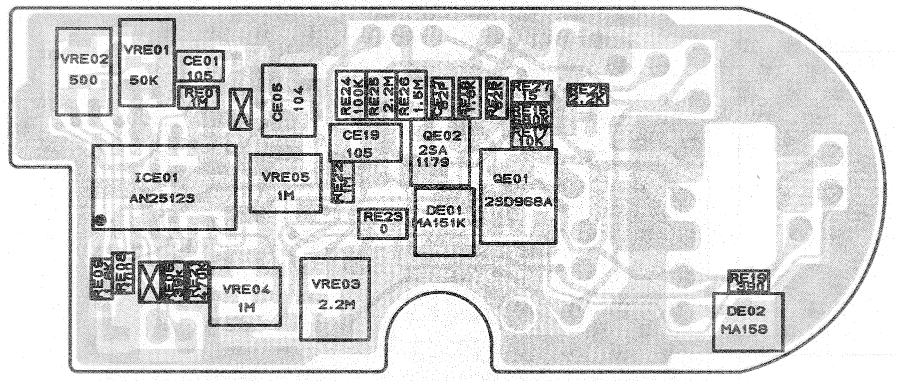
| LOCATION | COORDINATES |
|---|---|
| CTP01 | 2-A |
| CTP02 | 2-B |
| DP04 | 3-B |
| DP05 | 4-C |
| DP06 | 4-B |
| DP07 | 4-A |
| DP08 | 2-A |
| ICP01 | 1-B |
| ICP02 | 2-C |
| ICP03 | 4-B |
| ICP04 | 3-C |
| ICP05 | 4-A |
| ICP06 | 3-B |
| LP05 | 3-B |
| LP06 | 3-C |
| QP03 | 3-C |
| QP04 | 3-C |
| QP06 | 4-A |
| QP07 | 3-C |
| QP12 | 3-C |
| QP14 | 3-B |
| QP17 | 2-B |

| LOCATION | COORDINATES |
|---|---|
| CP09 | 4-B |
| CP10 | 4-B |
| CP11 | 4-C |
| CP12 | 4-C |
| CP14 | 3-C |
| CP16 | 4-A |
| CP17 | 3-B |
| CP25 | 3-C |
| CP26 | 3-C |
| CP27 | 2-B |
| CP30 | 3-B |
| CP34 | 3-C |
| CP37 | 4-C |
| CP39 | 2-A |
| CP40 | 2-B |
| CP51 | 2-A |

## 11-13. EVF (TOP SIDE)


CE14
331K
CE16
151K
LE03
ELH
-5L218
CNE04
CGP1602
-0101
CNE02
SOCKET FINDER
PI10 50MM
CNE01
53398-0590 WHT
CE04
2.2/6.3
CE03
223
RE04
470K
RE07
3.9
CE13
47/10
LE01
120uH
LE02
10uH
CE02
47/6.3
RE02
33
LED01
GL-
3HD7
FBT01
ECX-C2806A
CE15
3.3/50
CE11
100/6.3
CE10
100/6.3
CE09
4.7/20
CE07
104
RE12
750
RE13
1.2K
RE11
220
RE14
1K
CE12
272
CE08
104
QE03
2SA
1179
CE18
105
CNE03
CGP1602
-0101
RTE01
470

## 11-14. EVF (BOTTOM SIDE)


VRE02
500
VRE01
50K
CE01
105
RE01
1M
CE05
104
RE24
100K
RE25
2.2M
RE26
1.5M
RE27
15
RE15
510K
RE17
10K
CE19
105
QE02
2SA
1179
ICE01
AN2512S
VRE05
1M
RE22
1M
RE23
0
DE01
MA151K
QE01
2SD968A
VRE04
1M
VRE03
2.2M
RE19
390
DE02
MA158

# 12. BLOCK DIAGRAMS

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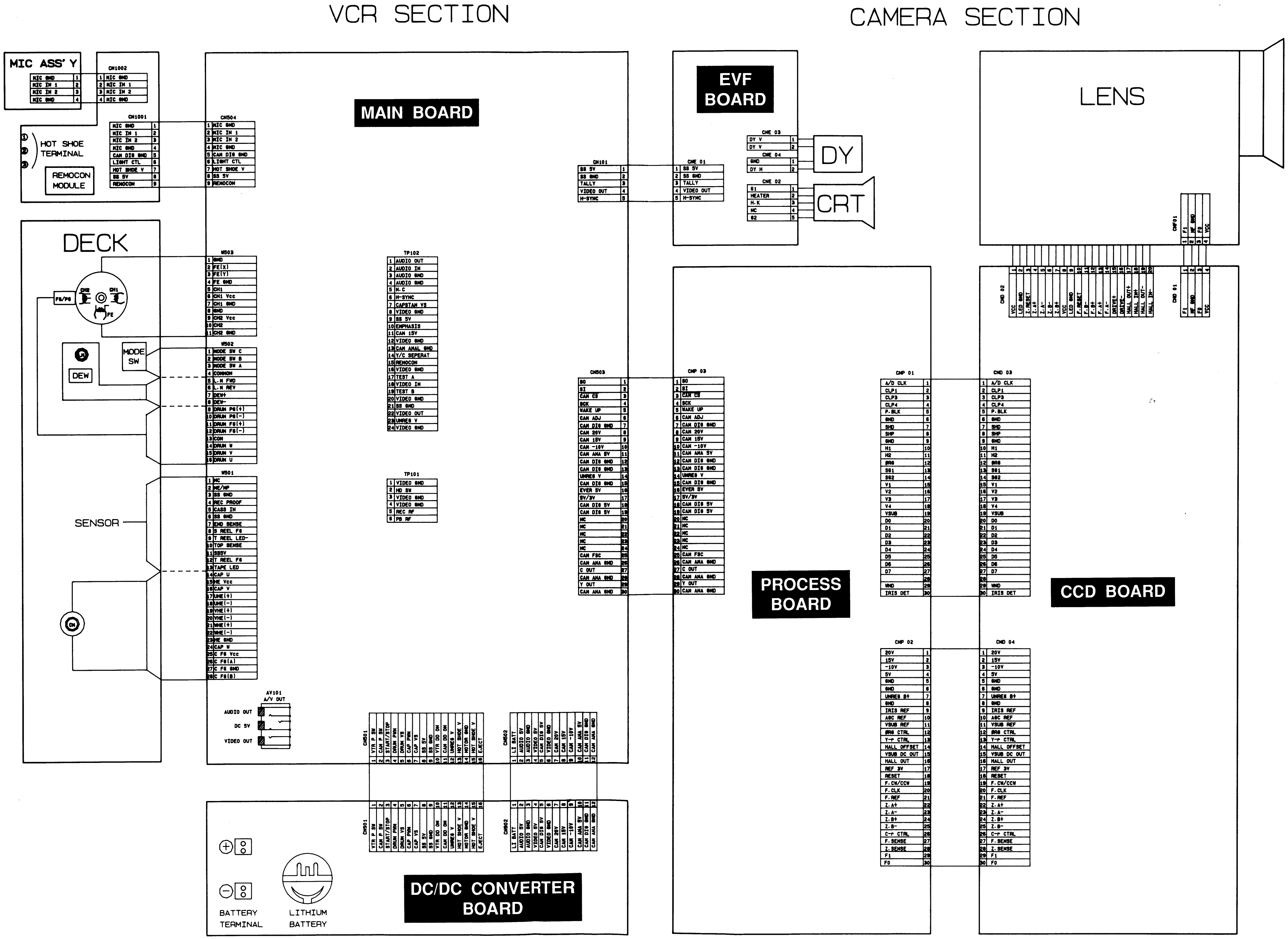
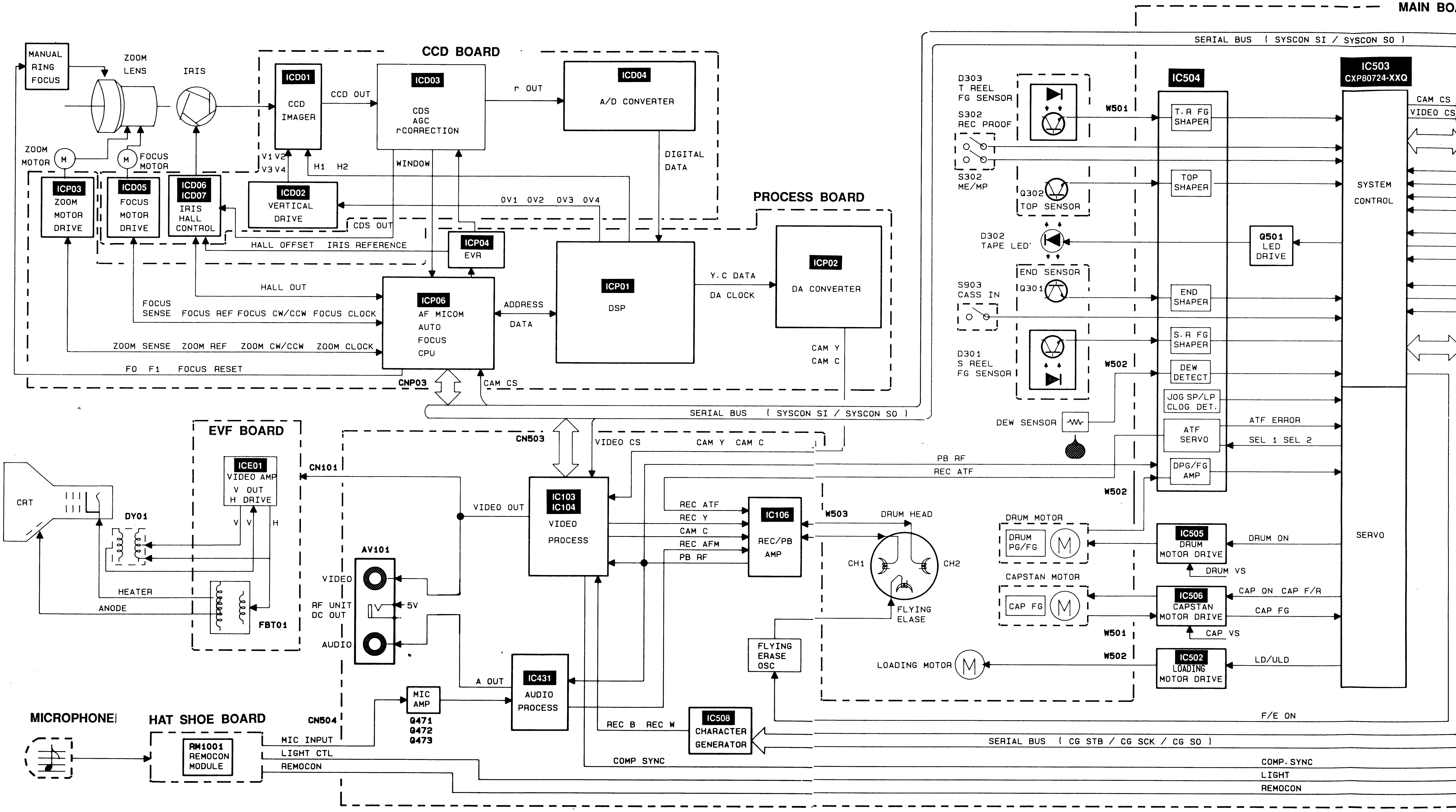
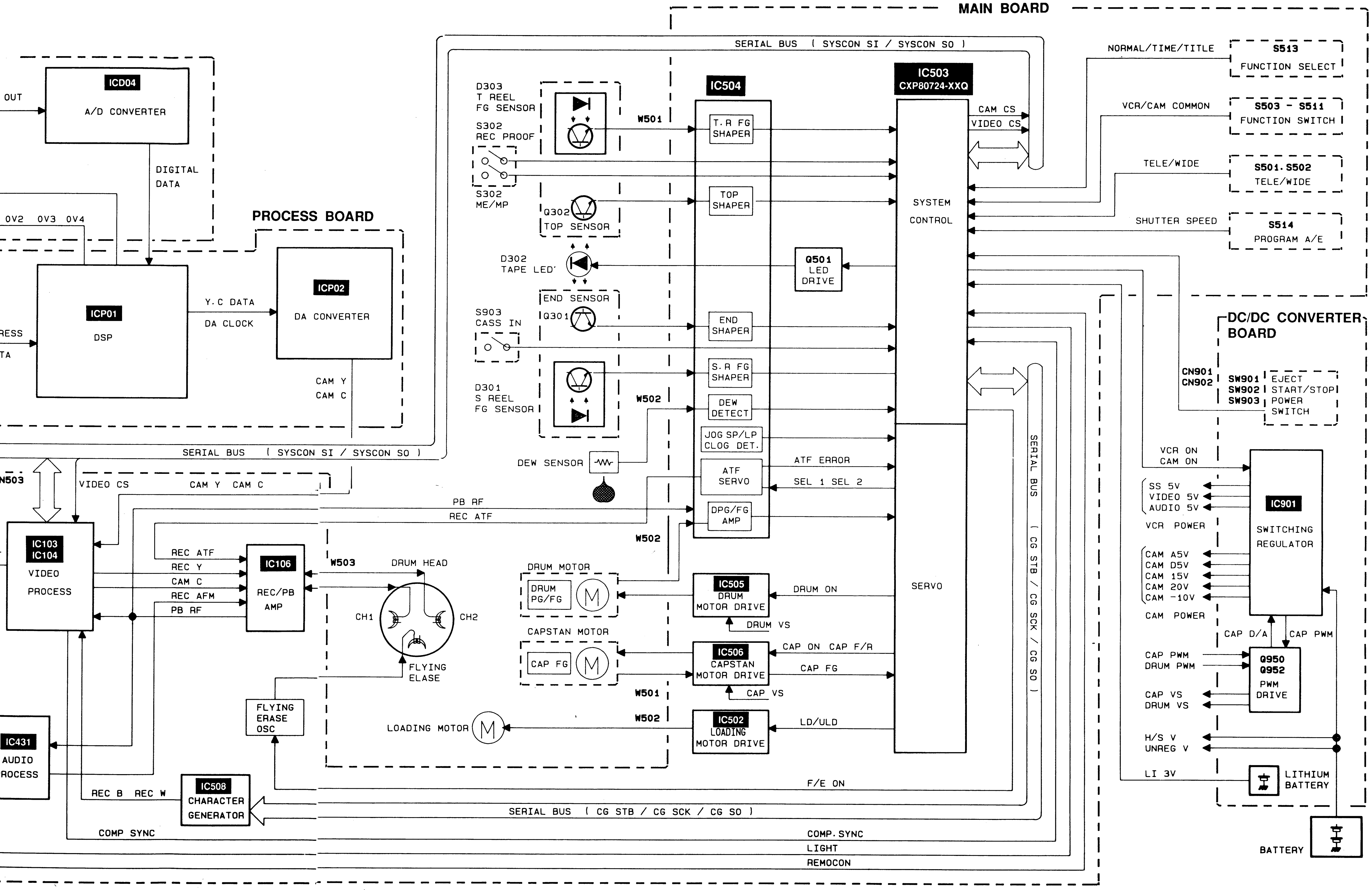
## 12-1. TOTAL WIRING DIAGRAM


VCR SECTION
CAMERA SECTION
MIC ASS' Y
1 MIC GND
2 MIC IN 1
3 MIC IN 2
4 MIC GND
CN1002
1 MIC GND
2 MIC IN 1
3 MIC IN 2
4 MIC GND
① ② ③ HOT SHOE TERMINAL
REMOCON MODULE
CN1001
1 MIC GND
2 MIC IN 1
3 MIC IN 2
4 MIC GND
5 CAM DIG GND
6 LIGHT CTL
7 HOT SHOE V
8 SS 5V
9 REMOCON
MAIN BOARD
CN504
1 MIC GND
2 MIC IN 1
3 MIC IN 2
4 MIC GND
5 CAM DIG GND
6 LIGHT CTL
7 HOT SHOE V
8 SS 5V
9 REMOCON
DECK
FG/PG
CH2
CH1
FE
DEW
MODE SW
SENSOR
CH
W503
1 GND
2 FE(X)
3 FE(Y)
4 FE GND
5 CH1
6 CH1 Vcc
7 CH1 GND
8 GND
9 CH2 Vcc
10 CH2
11 CH2 GND
W502
1 MODE SW C
2 MODE SW B
3 MODE SW A
4 COMMON
5 L.M FWD
6 L.M REV
7 DEW+
8 DEW-
9 DRUM PG(+)
10 DRUM PG(-)
11 DRUM FG(+)
12 DRUM FG(-)
13 COM
14 DRUM W
15 DRUM V
16 DRUM U
W501
1 NC
2 ME/MP
3 SS GND
4 REC PROOF
5 CASS IN
6 SS GND
7 END SENSE
8 S REEL FG
9 T REEL LED-
10 TOP SENSE
11 SS5V
12 T REEL FG
13 TAPE LED
14 CAP U
15 HE Vcc
16 CAP V
17 UHE(+)
18 UHE(-)
19 VHE(+)
20 VHE(-)
21 WHE(+)
22 WHE(-)
23 HE GND
24 CAP W
25 C FG Vcc
26 C FG(A)
27 C FG GND
28 C FG(B)
TP102
1 AUDIO OUT
2 AUDIO IN
3 AUDIO GND
4 AUDIO GND
5 N.C
6 H-SYNC
7 CAPSTAN VS
8 VIDEO GND
9 SS 5V
10 EMPHASIS
11 CAM 15V
12 VIDEO GND
13 CAM ANAL GND
14 Y/C SEPERAT
15 REMOCON
16 VIDEO GND
17 TEST A
18 VIDEO IN
19 TEST B
20 VIDEO GND
21 SS GND
22 VIDEO OUT
23 UNREG V
24 VIDEO GND
TP101
1 VIDEO GND
2 HD SW
3 VIDEO GND
4 VIDEO GND
5 REC RF
6 PB RF
AV101 A/V OUT
AUDIO OUT
DC 5V
VIDEO OUT
CN501 / CN901
1 VTR P SW
2 CAM P SW
3 START/STOP
4 DRUM PWM
5 DRUM VS
6 CAP PWM
7 CAP VS
8 SS 5V
9 SS GND
10 VTR DD ON
11 CAM DD ON
12 UNREG V
13 HOT SHOE V
14 MOTOR GND
15 HOT SHOE V
16 EJECT
CN502 / CN902
1 LI BATT
2 AUDIO 5V
3 AUDIO GND
4 VIDEO 5V
5 CAM DIG 5V
6 VIDEO GND
7 CAM 20V
8 CAM 15V
9 CAM -10V
10 CAM ANA 5V
11 CAM DIG GND
12 CAM ANA GND
BATTERY TERMINAL
LITHIUM BATTERY
DC/DC CONVERTER BOARD
CN101
1 SS 5V
2 SS GND
3 TALLY
4 VIDEO OUT
5 H-SYNC
EVF BOARD
CNE 01
1 SS 5V
2 SS GND
3 TALLY
4 VIDEO OUT
5 H-SYNC
CNE 03
1 DY V
2 DY V
CNE 04
1 GND
2 DY H
CNE 02
1 G1
2 HEATER
3 H.K
4 NC
5 G2
DY
CRT
CN503 / CNP 03
1 SO
2 SI
3 CAM CS
4 SCK
5 WAKE UP
6 CAM ADJ
7 CAM DIG GND
8 CAM 20V
9 CAM 15V
10 CAM -10V
11 CAM ANA 5V
12 CAM DIG GND
13 CAM DIG GND
14 UNREG V
15 CAM DIG GND
16 EVER 5V
17 5V/3V
18 CAM DIG 5V
19 CAM DIG 5V
20 NC
21 NC
22 NC
23 NC
24 NC
25 CAM FSC
26 CAM ANA GND
27 C OUT
28 CAM ANA GND
29 Y OUT
30 CAM ANA GND
PROCESS BOARD
CNP 01 / CND 03
1 A/D CLK
2 CLP1
3 CLP3
4 CLP4
5 P.BLK
6 GND
7 SHD
8 SHP
9 GND
10 H1
11 H2
12 ØRG
13 SG1
14 SG2
15 V1
16 V2
17 V3
18 V4
19 VSUB
20 D0
21 D1
22 D2
23 D3
24 D4
25 D5
26 D6
27 D7
28
29 WND
30 IRIS DET
CNP 02 / CND 04
1 20V
2 15V
3 -10V
4 5V
5 GND
6 GND
7 UNREG B+
8 GND
9 IRIS REF
10 AGC REF
11 VSUB REF
12 ØRG CTRL
13 Y-γ CTRL
14 HALL OFFSET
15 VSUB DC OUT
16 HALL OUT
17 REF 3V
18 RESET
19 F.CW/CCW
20 F.CLK
21 F.REF
22 Z.A+
23 Z.A-
24 Z.B+
25 Z.B-
26 C-γ CTRL
27 F.SENSE
28 Z.SENSE
29 F1
30 F0
LENS
CNF01
1 F1
2 MF GND
3 F0
4 VCC
CND 02
1 VCC
2 LED GND
3 Z.RESET
4 Z.A+
5 Z.A-
6 Z.B-
7 Z.B+
8 VCC
9 LED GND
10 F.RESET
11 F.B-
12 F.B+
13 F.A+
14 F.A-
15 DRIVE+
16 DRIVE-
17 HALL OUT+
18 HALL IN+
19 HALL OUT-
20 HALL IN-
CND 01
1 F1
2 MF GND
3 F0
4 VCC
CCD BOARD

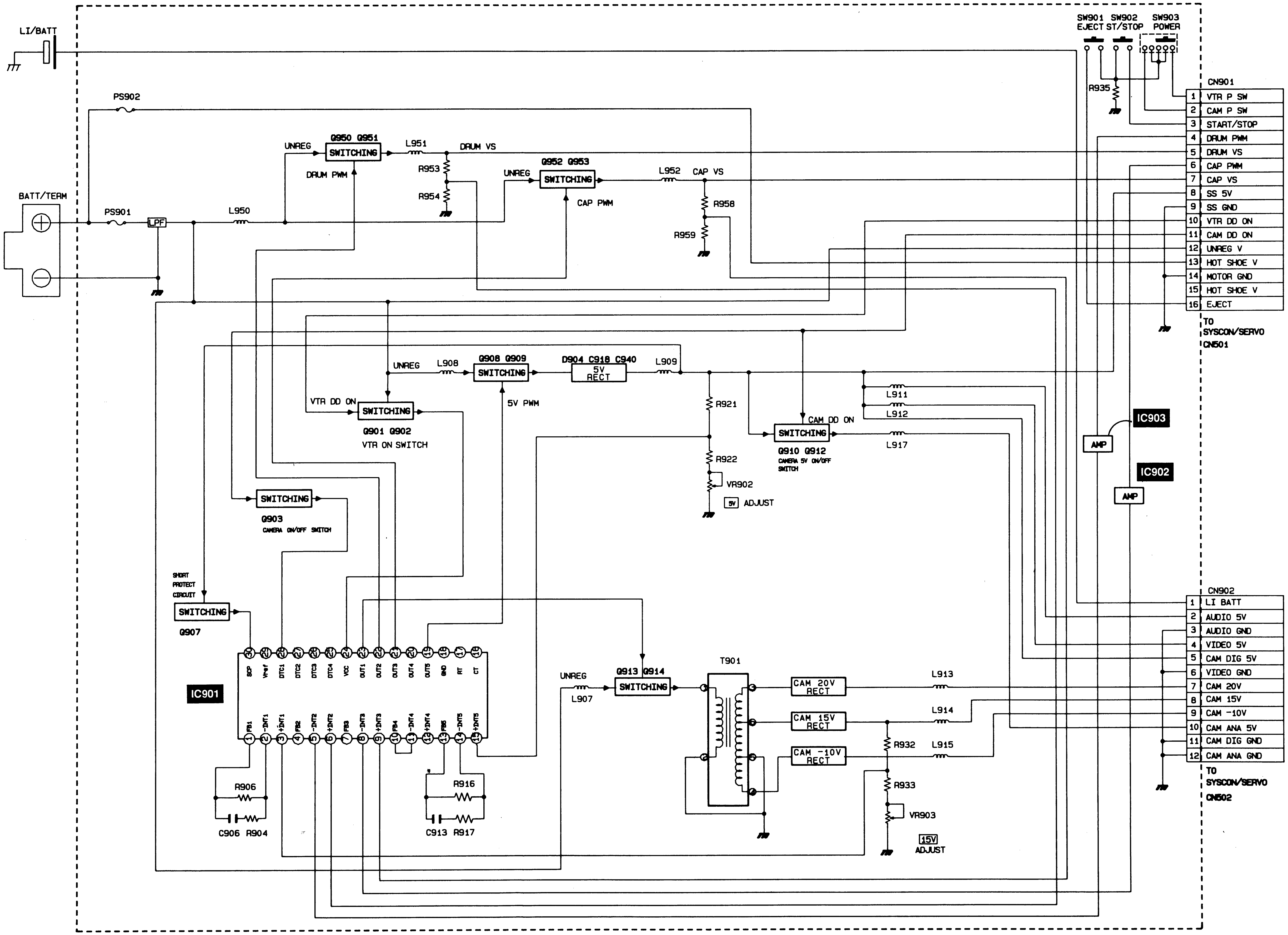
## 12-2. OVERALL BLOCK DIAGRAM



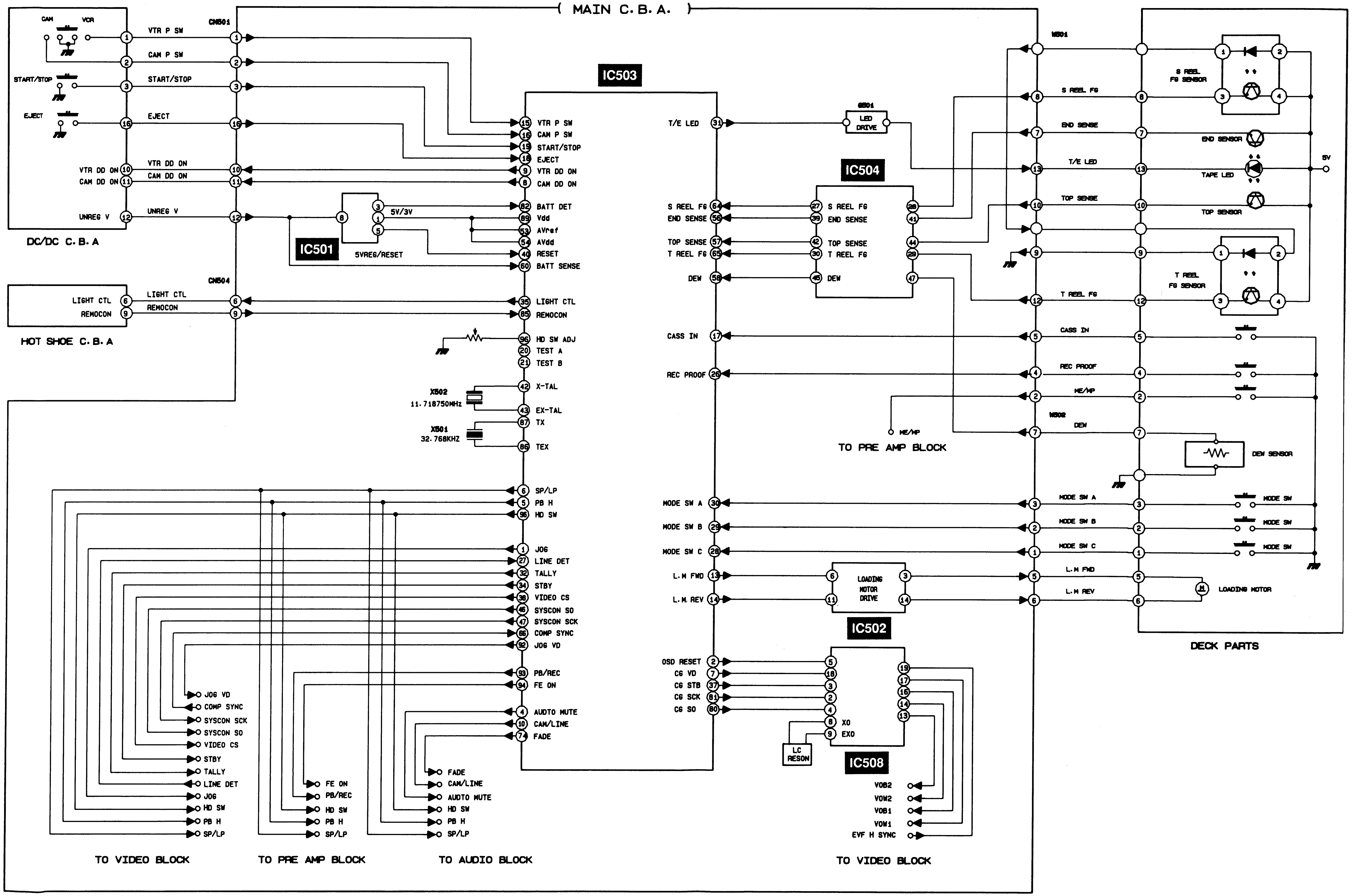
MAIN BO
CCD BOARD
PROCESS BOARD
EVF BOARD
HAT SHOE BOARD
MICROPHONE
MANUAL RING FOCUS
ZOOM LENS
IRIS
ZOOM MOTOR
FOCUS MOTOR
ICP03 ZOOM MOTOR DRIVE
ICD05 FOCUS MOTOR DRIVE
ICD06 ICD07 IRIS HALL CONTROL
ICD01 CCD IMAGER
CCD OUT
ICD03 CDS AGC rCORRECTION
r OUT
ICD04 A/D CONVERTER
DIGITAL DATA
V1 V2
V3 V4
H1 H2
WINDOW
ICD02 VERTICAL DRIVE
OV1 OV2 OV3 OV4
CDS OUT
HALL OFFSET IRIS REFERENCE
ICP04 EVR
ICP01 DSP
Y.C DATA
DA CLOCK
ICP02 DA CONVERTER
HALL OUT
FOCUS SENSE
FOCUS REF
FOCUS CW/CCW
FOCUS CLOCK
ICP06 AF MICOM AUTO FOCUS CPU
ADDRESS
DATA
ZOOM SENSE
ZOOM REF
ZOOM CW/CCW
ZOOM CLOCK
F0 F1
FOCUS RESET
CNP03
CAM CS
CAM Y
CAM C
SERIAL BUS ( SYSCON SI / SYSCON SO )
CN503
VIDEO CS
CAM Y CAM C
CN101
ICE01 VIDEO AMP V OUT H DRIVE
CRT
DY01
V V H
HEATER
ANODE
FBT01
VIDEO OUT
IC103 IC104 VIDEO PROCESS
AV101
VIDEO
RF UNIT DC OUT
5V
AUDIO
REC ATF
REC Y
CAM C
REC AFM
PB RF
IC106 REC/PB AMP
A OUT
IC431 AUDIO PROCESS
MIC AMP
Q471
Q472
Q473
CN504
MIC INPUT
LIGHT CTL
REMOCON
RM1001 REMOCON MODULE
REC B REC W
IC508 CHARACTER GENERATOR
COMP SYNC
FLYING ERASE OSC
W503
DRUM HEAD
CH1
CH2
FLYING ELASE
LOADING MOTOR
M
D303 T REEL FG SENSOR
S302 REC PROOF
S302 ME/MP
Q302
TOP SENSOR
D302 TAPE LED
END SENSOR
Q301
S903 CASS IN
D301 S REEL FG SENSOR
DEW SENSOR
W501
W502
IC504
T.R FG SHAPER
TOP SHAPER
END SHAPER
S.R FG SHAPER
DEW DETECT
JOG SP/LP CLOG DET.
ATF SERVO
DPG/FG AMP
Q501 LED DRIVE
ATF ERROR
SEL 1 SEL 2
PB RF
REC ATF
W502
DRUM MOTOR
DRUM PG/FG
IC505 DRUM MOTOR DRIVE
DRUM ON
DRUM VS
CAPSTAN MOTOR
CAP FG
IC506 CAPSTAN MOTOR DRIVE
CAP ON CAP F/R
CAP FG
CAP VS
W501
W502
IC502 LOADING MOTOR DRIVE
LD/ULD
F/E ON
SERIAL BUS ( CG STB / CG SCK / CG SO )
COMP. SYNC
LIGHT
REMOCON
IC503 CXP80724-XXQ
SYSTEM CONTROL
SERVO
CAM CS
VIDEO CS
SERIAL BUS ( SYSCON SI / SYSCON SO )


MAIN BOARD
PROCESS BOARD
DC/DC CONVERTER BOARD
OUT
ICD04
A/D CONVERTER
DIGITAL DATA
OV2 OV3 OV4
ICP01
DSP
RESS
TA
Y.C DATA
DA CLOCK
ICP02
DA CONVERTER
CAM Y
CAM C
SERIAL BUS ( SYSCON SI / SYSCON SO )
N503
VIDEO CS
CAM Y CAM C
IC103
IC104
VIDEO PROCESS
REC ATF
REC Y
CAM C
REC AFM
PB RF
IC106
REC/PB AMP
PB RF
REC ATF
W503
DRUM HEAD
CH1
CH2
FLYING ELASE
FLYING ERASE OSC
IC431
AUDIO PROCESS
REC B
REC W
IC508
CHARACTER GENERATOR
COMP SYNC
SERIAL BUS ( CG STB / CG SCK / CG SO )
F/E ON
COMP. SYNC
LIGHT
REMOCON
D303
T REEL FG SENSOR
S302
REC PROOF
S302
ME/MP
Q302
TOP SENSOR
D302
TAPE LED
END SENSOR
S903
CASS IN
Q301
D301
S REEL FG SENSOR
DEW SENSOR
W501
W502
W502
W501
W502
IC504
T.R FG SHAPER
TOP SHAPER
END SHAPER
S.R FG SHAPER
DEW DETECT
JOG SP/LP CLOG DET.
ATF SERVO
DPG/FG AMP
Q501
LED DRIVE
ATF ERROR
SEL 1 SEL 2
DRUM MOTOR
DRUM PG/FG
M
CAPSTAN MOTOR
CAP FG
M
LOADING MOTOR
M
IC505
DRUM MOTOR DRIVE
DRUM ON
DRUM VS
IC506
CAPSTAN MOTOR DRIVE
CAP ON CAP F/R
CAP FG
CAP VS
IC502
LOADING MOTOR DRIVE
LD/ULD
IC503
CXP80724-XXQ
SYSTEM CONTROL
SERVO
CAM CS
VIDEO CS
SERIAL BUS ( CG STB / CG SCK / CG SO )
NORMAL/TIME/TITLE
S513
FUNCTION SELECT
VCR/CAM COMMON
S503 - S511
FUNCTION SWITCH
TELE/WIDE
S501.S502
TELE/WIDE
SHUTTER SPEED
S514
PROGRAM A/E
CN901
CN902
SW901
SW902
SW903
EJECT
START/STOP
POWER SWITCH
VCR ON
CAM ON
SS 5V
VIDEO 5V
AUDIO 5V
VCR POWER
IC901
SWITCHING REGULATOR
CAM A5V
CAM D5V
CAM 15V
CAM 20V
CAM -10V
CAM POWER
CAP D/A
CAP PWM
CAP PWM
DRUM PWM
Q950
Q952
PWM DRIVE
CAP VS
DRUM VS
H/S V
UNREG V
LI 3V
LITHIUM BATTERY
BATTERY

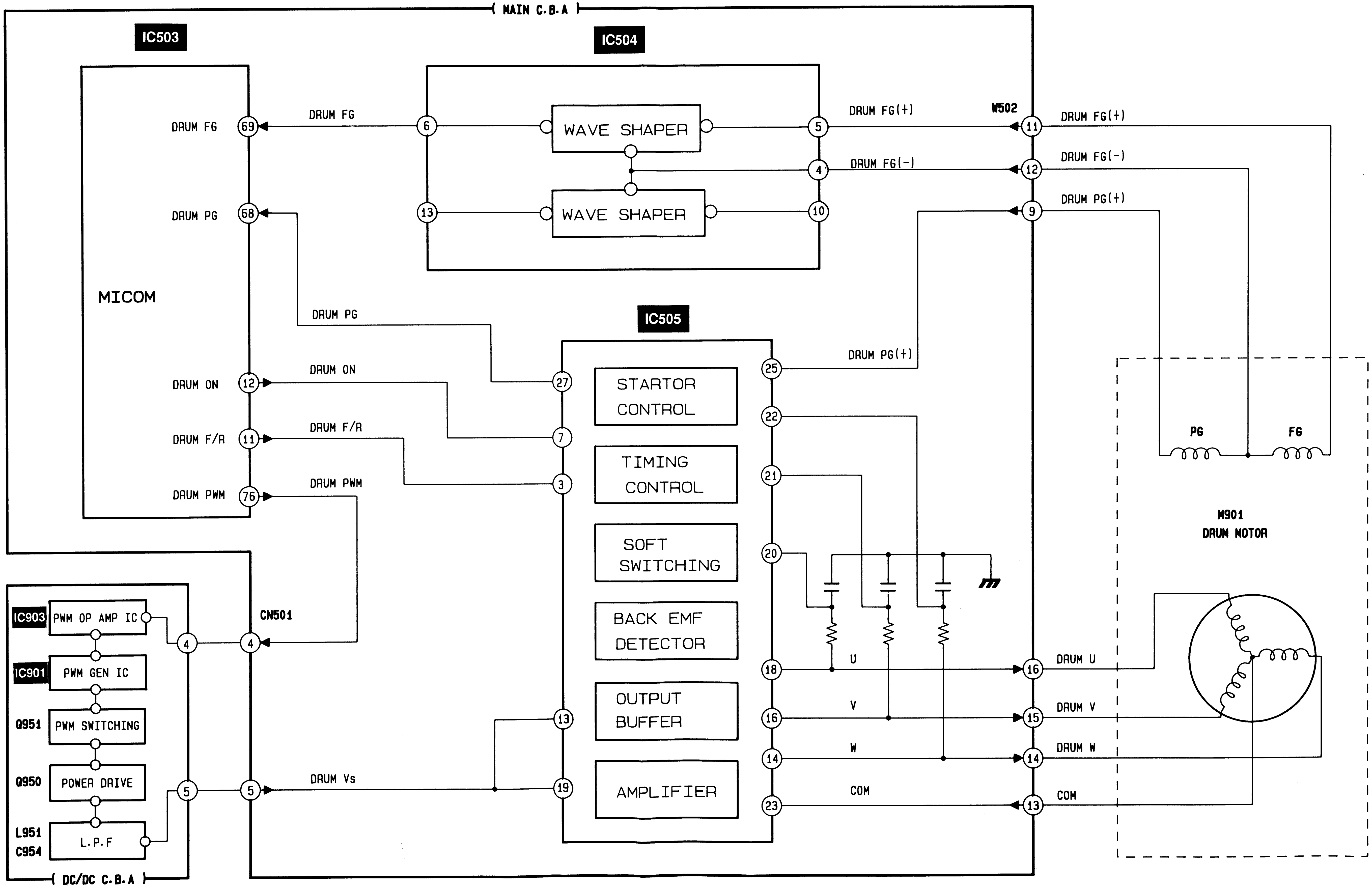
## 12-3. DC/DC CONVERTER


LI/BATT
BATT/TERM
PS902
PS901
LPF
L950
UNREG
Q950 Q951
SWITCHING
DRUM PWM
L951
DRUM VS
R953
R954
Q952 Q953
CAP PWM
L952
CAP VS
R958
R959
SW901 EJECT
SW902 ST/STOP
SW903 POWER
R935
CN901
1 VTR P SW
2 CAM P SW
3 START/STOP
4 DRUM PWM
5 DRUM VS
6 CAP PWM
7 CAP VS
8 SS 5V
9 SS GND
10 VTR DD ON
11 CAM DD ON
12 UNREG V
13 HOT SHOE V
14 MOTOR GND
15 HOT SHOE V
16 EJECT
TO SYSCON/SERVO CN501
L908
Q908 Q909
D904 C918 C940
5V RECT
L909
5V PWM
VTR DD ON
Q901 Q902
VTR ON SWITCH
R921
R922
VR902
5V ADJUST
CAM DD ON
Q910 Q912
CAMERA 5V ON/OFF SWITCH
L911
L912
L917
IC903
AMP
IC902
Q903
CAMERA ON/OFF SWITCH
SHORT PROTECT CIRCUIT
Q907
IC901
30 SCP
29 Vref
28 DTC1
27 DTC2
26 DTC3
25 DTC4
24 VCC
23 OUT1
22 OUT2
21 OUT3
20 OUT4
19 OUT5
18 GND
17 RT
16 CT
1 FB1
2 -INT1
3 +INT1
4 FB2
5 -INT2
6 +INT2
7 FB3
8 -INT3
9 +INT3
10 FB4
11 -INT4
12 +INT4
13 FB5
14 -INT5
15 +INT5
R906
C906 R904
R916
C913 R917
L907
Q913 Q914
T901
CAM 20V RECT
CAM 15V RECT
CAM -10V RECT
L913
L914
L915
R932
R933
VR903
15V ADJUST
CN902
1 LI BATT
2 AUDIO 5V
3 AUDIO GND
4 VIDEO 5V
5 CAM DIG 5V
6 VIDEO GND
7 CAM 20V
8 CAM 15V
9 CAM -10V
10 CAM ANA 5V
11 CAM DIG GND
12 CAM ANA GND
TO SYSCON/SERVO CN502

## 12-4. SYSTEM CONTROL

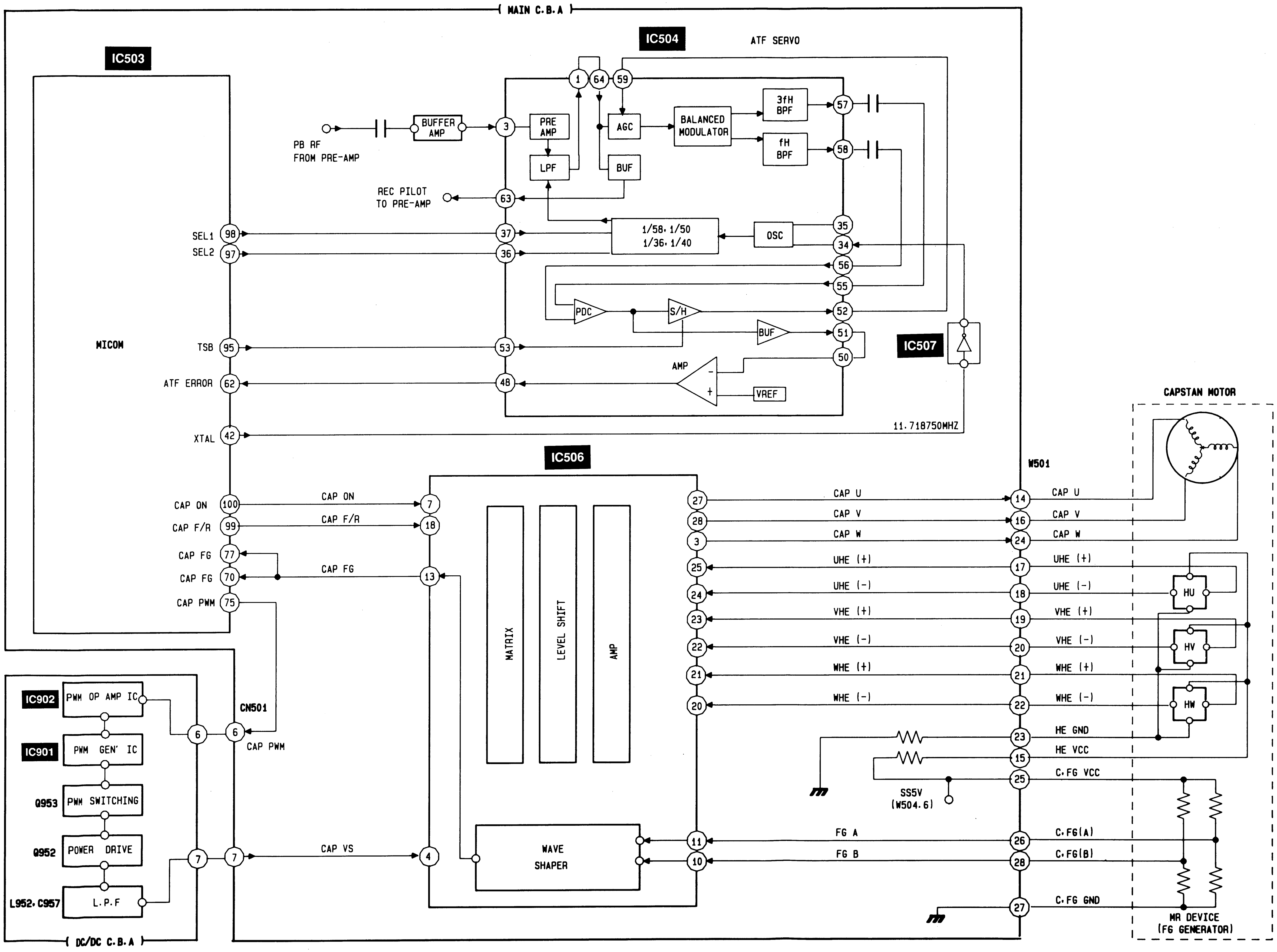

MAIN C.B.A.
IC503
IC501
IC502
IC504
IC508
CN501
CN504
M501
M502
D501
LED DRIVE
5VREG/RESET
5V/3V
LOADING MOTOR DRIVE
LC RESON
CAM
VCR
START/STOP
EJECT
VTR P SW
CAM P SW
VTR DD ON
CAM DD ON
UNREG V
DC/DC C.B.A
LIGHT CTL
REMOCON
HOT SHOE C.B.A
BATT DET
Vdd
AVref
AVdd
RESET
BATT SENSE
HD SW ADJ
TEST A
TEST B
X-TAL
EX-TAL
TX
TEX
X502
11.718750MHz
X501
32.768KHZ
SP/LP
PB H
HD SW
JOG
LINE DET
TALLY
STBY
VIDEO CS
SYSCON SO
SYSCON SCK
COMP SYNC
JOG VD
PB/REC
FE ON
AUDIO MUTE
CAM/LINE
FADE
T/E LED
S REEL FG
END SENSE
TOP SENSE
T REEL FG
DEW
CASS IN
REC PROOF
ME/MP
MODE SW A
MODE SW B
MODE SW C
L.M FWD
L.M REV
OSD RESET
CG VD
CG STB
CG SCK
CG SO
XO
EXO
VOB2
VOW2
VOB1
VOW1
EVF H SYNC
S REEL FG SENSOR
END SENSOR
TAPE LED
TOP SENSOR
T REEL FG SENSOR
5V
DEW SENSOR
MODE SW
LOADING MOTOR
DECK PARTS
TO PRE AMP BLOCK
TO VIDEO BLOCK
TO PRE AMP BLOCK
TO AUDIO BLOCK
TO VIDEO BLOCK

## 12-5. DRUM SERVO

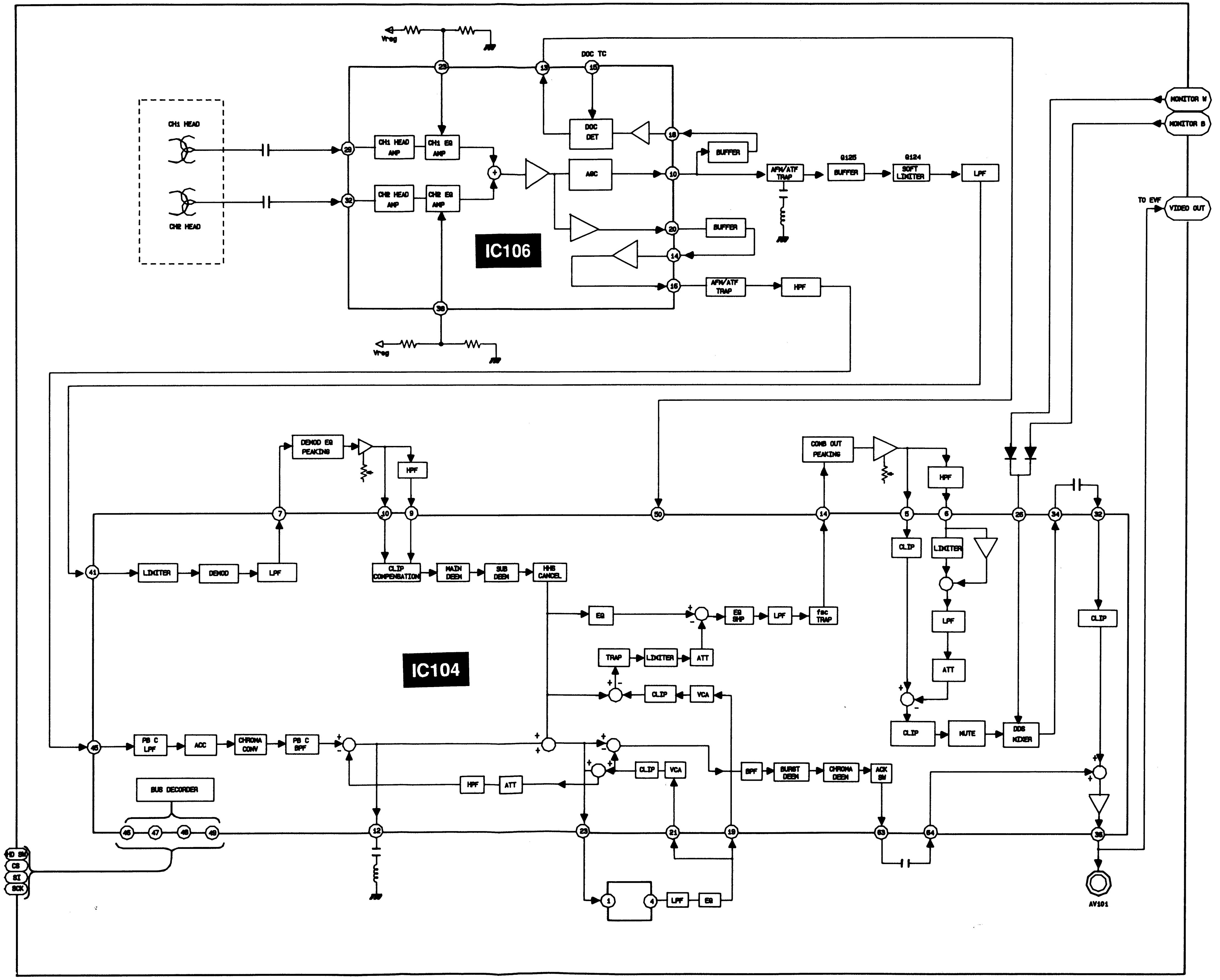


MAIN C.B.A
IC503
IC504
IC505
MICOM
DRUM FG
DRUM PG
DRUM ON
DRUM F/R
DRUM PWM
69
68
12
11
76
WAVE SHAPER
WAVE SHAPER
6
13
5
4
10
DRUM FG(+)
DRUM FG(-)
W502
11
12
9
DRUM PG(+)
STARTOR CONTROL
TIMING CONTROL
SOFT SWITCHING
BACK EMF DETECTOR
OUTPUT BUFFER
AMPLIFIER
27
7
3
13
19
25
22
21
20
18
16
14
23
U
V
W
COM
DRUM U
DRUM V
DRUM W
DRUM Vs
PG
FG
M901
DRUM MOTOR
CN501
IC903
PWM OP AMP IC
IC901
PWM GEN IC
Q951
PWM SWITCHING
Q950
POWER DRIVE
L951
C954
L.P.F
DC/DC C.B.A

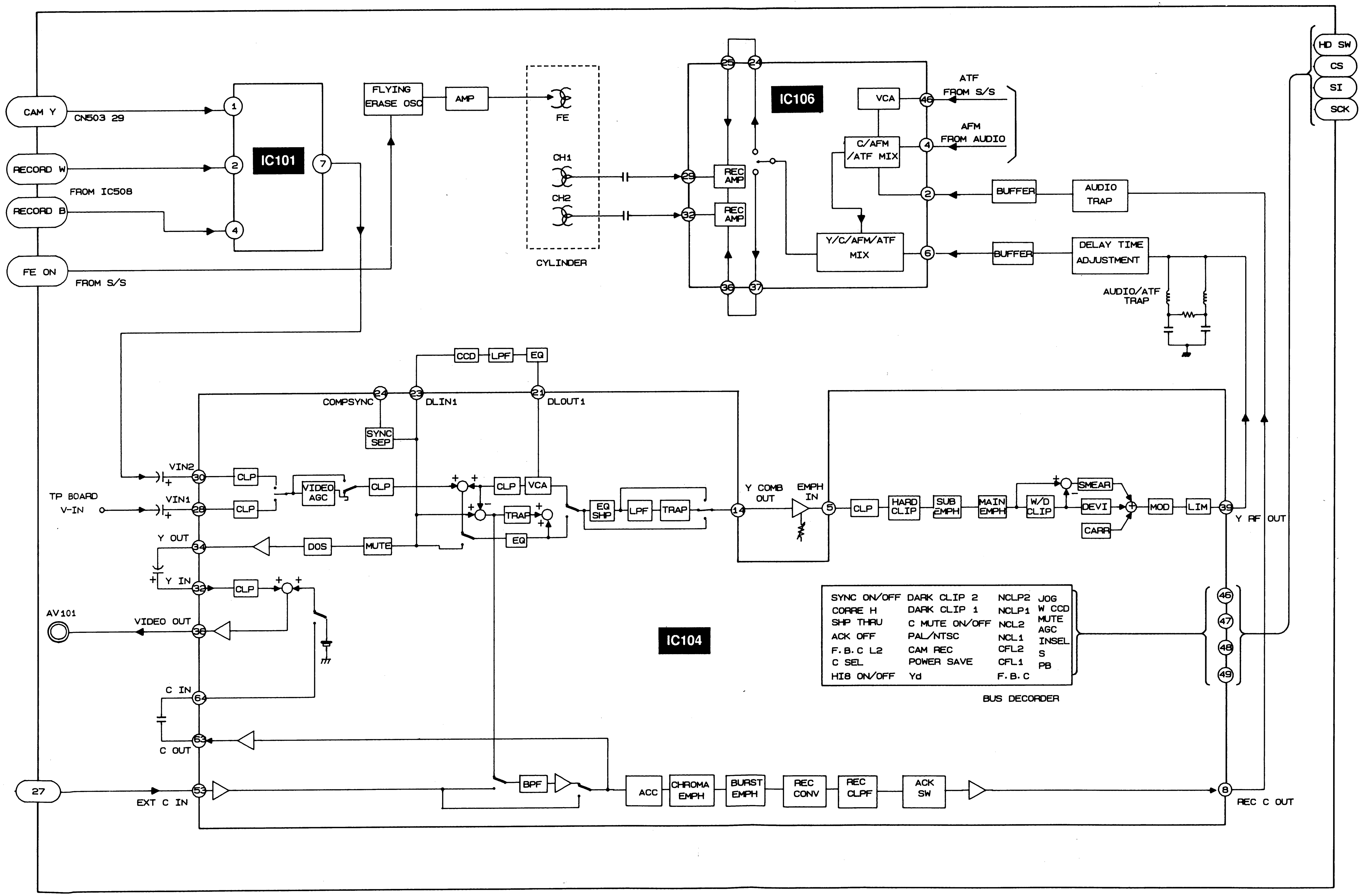
## 12-6. CAPSTAN SERVO


MAIN C.B.A
IC503
MICON
IC504
ATF SERVO
PB RF
FROM PRE-AMP
BUFFER AMP
PRE AMP
LPF
AGC
BUF
BALANCED MODULATOR
3fH BPF
fH BPF
REC PILOT
TO PRE-AMP
1/58, 1/50
1/36, 1/40
OSC
PDC
S/H
BUF
AMP
VREF
IC507
11.718750MHZ
SEL1
SEL2
TSB
ATF ERROR
XTAL
CAP ON
CAP F/R
CAP FG
CAP FG
CAP PWM
IC506
MATRIX
LEVEL SHIFT
AMP
WAVE SHAPER
CAP ON
CAP F/R
CAP FG
CAP VS
CAP U
CAP V
CAP W
UHE (+)
UHE (-)
VHE (+)
VHE (-)
WHE (+)
WHE (-)
FG A
FG B
SS5V
(W504.6)
W501
CAPSTAN MOTOR
HU
HV
HW
HE GND
HE VCC
C.FG VCC
C.FG(A)
C.FG(B)
C.FG GND
MR DEVICE
(FG GENERATOR)
CN501
CAP PWM
IC902
PWM OP AMP IC
IC901
PWM GEN' IC
Q953
PWM SWITCHING
Q952
POWER DRIVE
L952, C957
L.P.F
DC/DC C.B.A

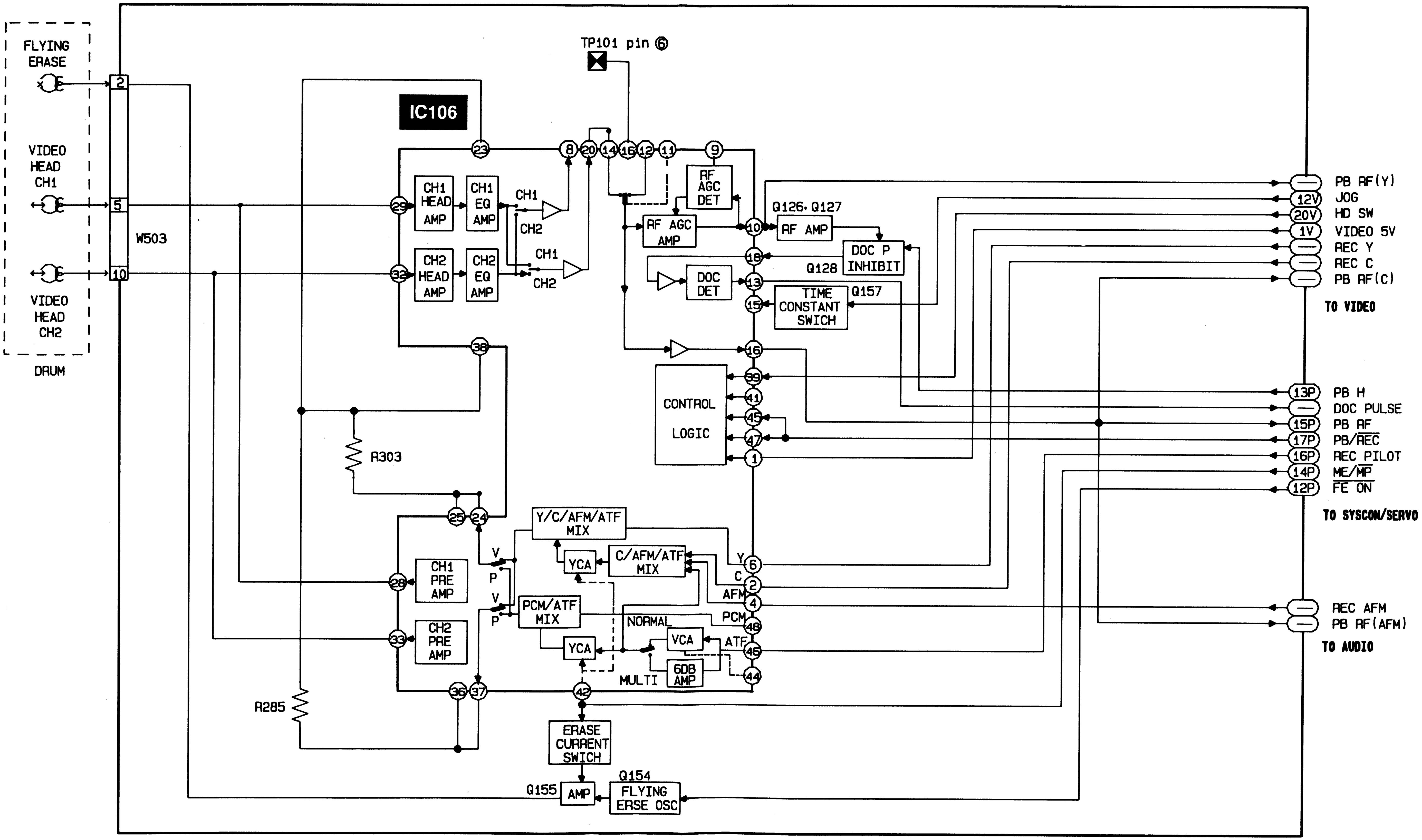
## 12-7. VIDEO PLAYBACK


CH1 HEAD
CH2 HEAD
Vreg
29
32
23
36
13
DOC TC
15
18
10
20
14
16
CH1 HEAD AMP
CH1 EQ AMP
CH2 HEAD AMP
CH2 EQ AMP
+
AGC
DOC DET
BUFFER
BUFFER
AFM/ATF TRAP
AFM/ATF TRAP
HPF
Q125
BUFFER
Q124
SOFT LIMITER
LPF
IC106
MONITOR W
MONITOR B
TO EVF
VIDEO OUT
DEMOD EQ PEAKING
HPF
41
LIMITER
DEMOD
LPF
7
10
9
50
14
5
6
26
34
32
CLIP COMPENSATION
MAIN DEEM
SUB DEEM
HHS CANCEL
EQ
EQ SHP
LPF
fsc TRAP
COMB OUT PEAKING
HPF
CLIP
LIMITER
LPF
ATT
CLIP
MUTE
DDS MIXER
CLIP
TRAP
LIMITER
ATT
CLIP
VCA
IC104
45
PB C LPF
ACC
CHROMA CONV
PB C BPF
HPF
ATT
CLIP
VCA
BPF
BURST DEEM
CHROMA DEEM
ACK SW
BUS DECORDER
46
47
48
49
12
23
21
19
53
54
36
1
4
LPF
EQ
HD SW
CS
SI
SCK
AV101

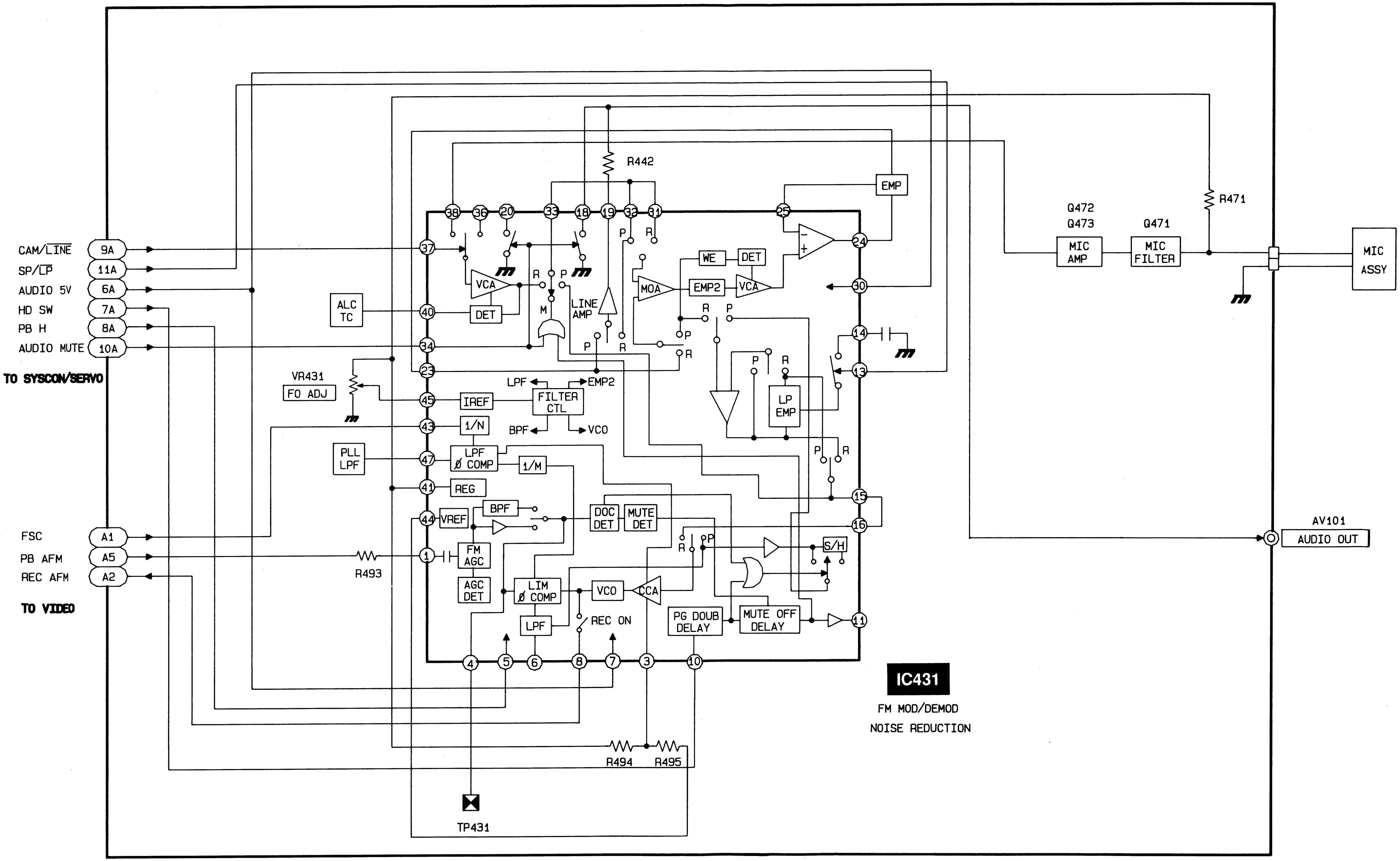
## 12-8. VIDEO RECORD


CAM Y
CN503 29
RECORD W
FROM IC508
RECORD B
FE ON
FROM S/S
IC101
FLYING ERASE OSC
AMP
FE
CH1
CH2
CYLINDER
IC106
REC AMP
REC AMP
VCA
C/AFM /ATF MIX
Y/C/AFM/ATF MIX
ATF FROM S/S
AFM FROM AUDIO
BUFFER
AUDIO TRAP
BUFFER
DELAY TIME ADJUSTMENT
AUDIO/ATF TRAP
HD SW
CS
SI
SCK
CCD
LPF
EQ
COMPSYNC
DLIN1
DLOUT1
SYNC SEP
VIN2
TP BOARD V-IN
VIN1
CLP
CLP
VIDEO AGC
CLP
CLP
VCA
TRAP
EQ
EQ SHP
LPF
TRAP
Y COMB OUT
EMPH IN
CLP
HARD CLIP
SUB EMPH
MAIN EMPH
W/D CLIP
SMEAR
DEVI
CARR
MOD
LIM
Y RF OUT
Y OUT
DOS
MUTE
Y IN
CLP
AV101
VIDEO OUT
IC104
C IN
C OUT
27
EXT C IN
BPF
ACC
CHROMA EMPH
BURST EMPH
REC CONV
REC CLPF
ACK SW
REC C OUT
SYNC ON/OFF
CORRE H
SHP THRU
ACK OFF
F.B.C L2
C SEL
HI8 ON/OFF
DARK CLIP 2
DARK CLIP 1
C MUTE ON/OFF
PAL/NTSC
CAM REC
POWER SAVE
Yd
NCLP2
NCLP1
NCL2
NCL1
CFL2
CFL1
F.B.C
JOG
W CCD
MUTE
AGC
INSEL
S
PB
BUS DECORDER
1
2
4
7
25
24
46
4
2
6
29
32
36
37
24
23
21
30
28
34
32
36
64
63
53
14
5
39
46
47
48
49
8

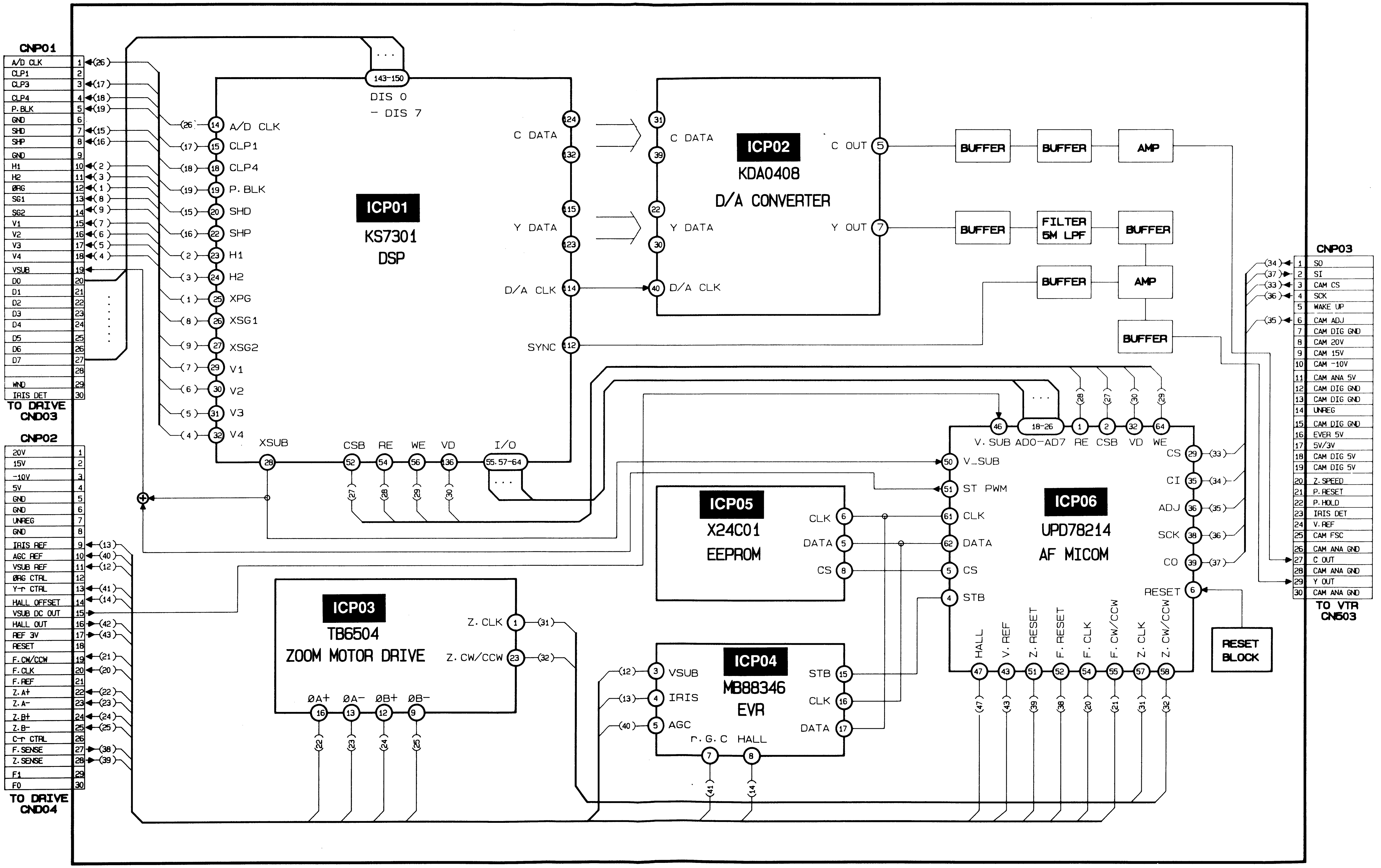
## 12-9. PRE AMP


FLYING
ERASE
VIDEO
HEAD
CH1
VIDEO
HEAD
CH2
DRUM
W503
2
5
10
IC106
TP101 pin ⑥
CH1 HEAD AMP
CH1 EQ AMP
CH2 HEAD AMP
CH2 EQ AMP
CH1
CH2
CH1
CH2
23
8
20
14
16
12
11
9
29
32
38
RF AGC DET
RF AGC AMP
10
Q126, Q127
RF AMP
DOC P INHIBIT
18
Q128
DOC DET
13
15
TIME CONSTANT SWICH
Q157
16
CONTROL LOGIC
39
41
45
47
1
R303
25
24
Y/C/AFM/ATF MIX
YCA
C/AFM/ATF MIX
V
P
V
P
CH1 PRE AMP
CH2 PRE AMP
28
33
PCM/ATF MIX
NORMAL
VCA
YCA
6DB AMP
MULTI
Y
C
AFM
PCM
ATF
6
2
4
48
46
44
R285
36
37
42
ERASE CURRENT SWICH
Q155
AMP
Q154
FLYING ERSE OSC
PB RF(Y)
12V
JOG
20V
HD SW
1V
VIDEO 5V
REC Y
REC C
PB RF(C)
TO VIDEO
13P
PB H
DOC PULSE
15P
PB RF
17P
PB/REC
16P
REC PILOT
14P
ME/MP
12P
FE ON
TO SYSCON/SERVO
REC AFM
PB RF(AFM)
TO AUDIO

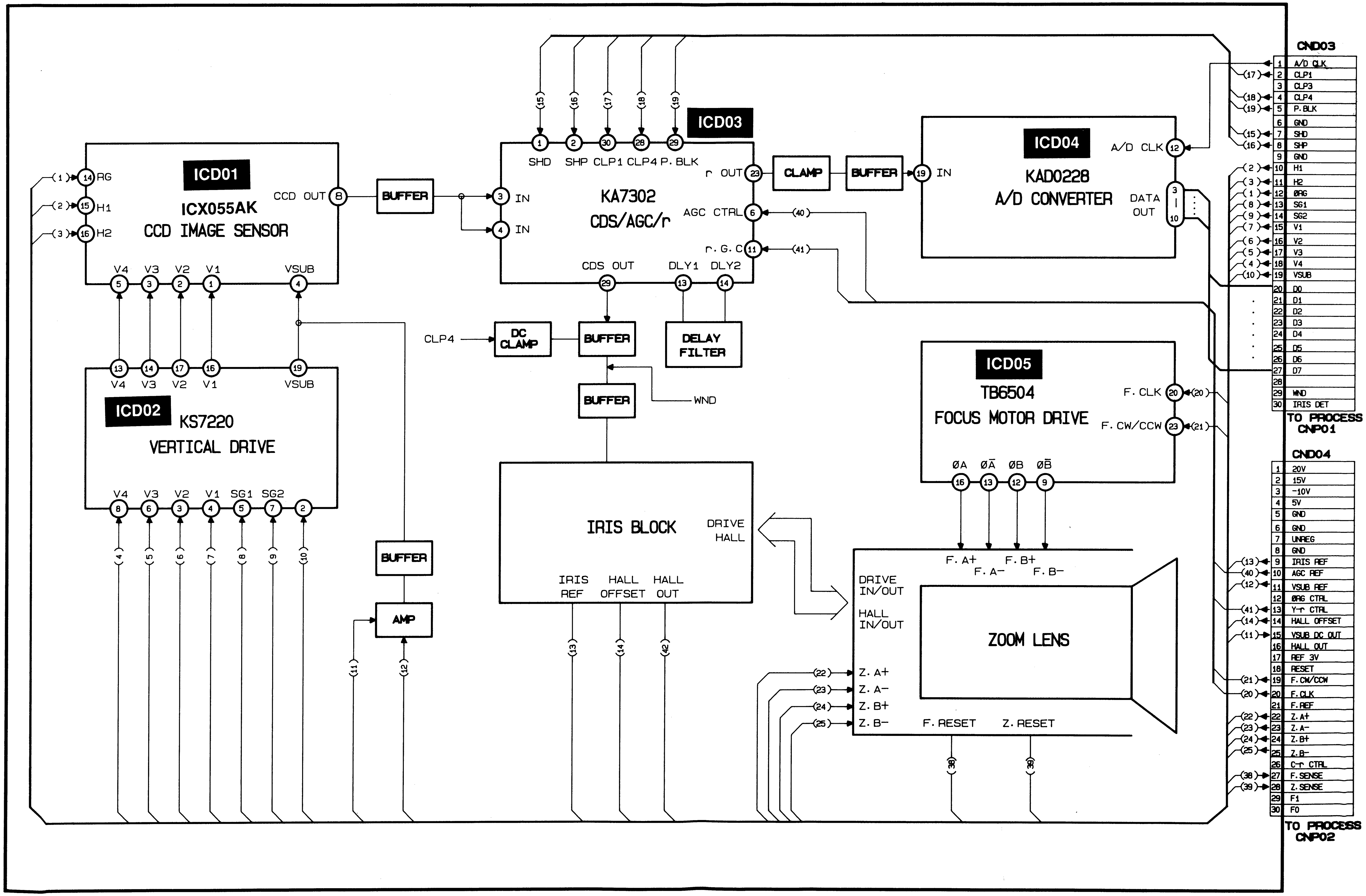
## 12-10. AUDIO


CAM/$\overline{\text{LINE}}$
SP/$\overline{\text{LP}}$
AUDIO 5V
HD SW
PB H
AUDIO MUTE
9A
11A
6A
7A
8A
10A
TO SYSCON/SERVO
FSC
PB AFM
REC AFM
A1
A5
A2
TO VIDEO
R442
EMP
38
36
20
33
18
19
32
31
25
24
30
14
13
15
16
11
37
40
34
23
45
43
47
41
44
1
4
5
6
8
7
3
10
ALC
TC
VCA
DET
R
P
M
LINE
AMP
MOA
EMP2
VCA
WE
DET
LP
EMP
VR431
F0 ADJ
IREF
FILTER
CTL
LPF
EMP2
BPF
VCO
1/N
PLL
LPF
LPF
Ø COMP
1/M
REG
BPF
VREF
FM
AGC
AGC
DET
DOC
DET
MUTE
DET
S/H
LIM
Ø COMP
VCO
CCA
LPF
REC ON
PG DOUB
DELAY
MUTE OFF
DELAY
R493
R494
R495
TP431
IC431
FM MOD/DEMOD
NOISE REDUCTION
Q472
Q473
Q471
MIC
AMP
MIC
FILTER
R471
MIC
ASSY
AV101
AUDIO OUT

## 12-11. PROCESS


CNP01
A/D CLK 1
CLP1 2
CLP3 3
CLP4 4
P.BLK 5
GND 6
SHD 7
SHP 8
GND 9
H1 10
H2 11
ØRG 12
SG1 13
SG2 14
V1 15
V2 16
V3 17
V4 18
VSUB 19
D0 20
D1 21
D2 22
D3 23
D4 24
D5 25
D6 26
D7 27
28
WND 29
IRIS DET 30
TO DRIVE CND03
CNP02
20V 1
15V 2
-10V 3
5V 4
GND 5
GND 6
UNREG 7
GND 8
IRIS REF 9
AGC REF 10
VSUB REF 11
ØRG CTRL 12
Y-r CTRL 13
HALL OFFSET 14
VSUB DC OUT 15
HALL OUT 16
REF 3V 17
RESET 18
F.CW/CCW 19
F.CLK 20
F.REF 21
Z.A+ 22
Z.A- 23
Z.B+ 24
Z.B- 25
C-r CTRL 26
F.SENSE 27
Z.SENSE 28
F1 29
F0 30
TO DRIVE CND04
ICP01
KS7301
DSP
A/D CLK
CLP1
CLP4
P.BLK
SHD
SHP
H1
H2
XPG
XSG1
XSG2
V1
V2
V3
V4
XSUB
CSB
RE
WE
VD
I/O
55.57-64
143-150
DIS 0 - DIS 7
C DATA
Y DATA
D/A CLK
SYNC
ICP02
KDA0408
D/A CONVERTER
C DATA
Y DATA
D/A CLK
C OUT
Y OUT
BUFFER
AMP
FILTER 5M LPF
ICP03
TB6504
ZOOM MOTOR DRIVE
Z.CLK
Z.CW/CCW
ØA+
ØA-
ØB+
ØB-
ICP04
MB88346
EVR
VSUB
IRIS
AGC
r.G.C
HALL
STB
CLK
DATA
ICP05
X24C01
EEPROM
CLK
DATA
CS
ICP06
UPD78214
AF MICOM
V.SUB
AD0-AD7
18-26
RE
CSB
VD
WE
V_SUB
ST PWM
CLK
DATA
CS
STB
CS
CI
ADJ
SCK
CO
RESET
HALL
V.REF
Z.RESET
F.RESET
F.CLK
F.CW/CCW
Z.CLK
Z.CW/CCW
RESET BLOCK
CNP03
1 SO
2 SI
3 CAM CS
4 SCK
5 WAKE UP
6 CAM ADJ
7 CAM DIG GND
8 CAM 20V
9 CAM 15V
10 CAM -10V
11 CAM ANA 5V
12 CAM DIG GND
13 CAM DIG GND
14 UNREG
15 CAM DIG GND
16 EVER 5V
17 5V/3V
18 CAM DIG 5V
19 CAM DIG 5V
20 Z.SPEED
21 P.RESET
22 P.HOLD
23 IRIS DET
24 V.REF
25 CAM FSC
26 CAM ANA GND
27 C OUT
28 CAM ANA GND
29 Y OUT
30 CAM ANA GND
TO VTR CN503

## 12-12. CCD


ICD01
ICX055AK
CCD IMAGE SENSOR
RG
H1
H2
CCD OUT
V4 V3 V2 V1 VSUB
BUFFER
ICD02
KS7220
VERTICAL DRIVE
V4 V3 V2 V1 VSUB
V4 V3 V2 V1 SG1 SG2
BUFFER
AMP
ICD03
KA7302
CDS/AGC/γ
SHD SHP CLP1 CLP4 P. BLK
IN
IN
γ OUT
AGC CTRL
γ. G. C
CDS OUT
DLY1 DLY2
CLAMP
BUFFER
CLP4
DC CLAMP
BUFFER
DELAY FILTER
BUFFER
WND
IRIS BLOCK
DRIVE
HALL
IRIS REF
HALL OFFSET
HALL OUT
ICD04
KAD0228
A/D CONVERTER
IN
A/D CLK
DATA OUT
ICD05
TB6504
FOCUS MOTOR DRIVE
F. CLK
F. CW/CCW
ØA ØĀ ØB ØB̄
F. A+ F. B+
F. A− F. B−
DRIVE IN/OUT
HALL IN/OUT
ZOOM LENS
Z. A+
Z. A−
Z. B+
Z. B−
F. RESET
Z. RESET
CND03
1 A/D CLK
2 CLP1
3 CLP3
4 CLP4
5 P. BLK
6 GND
7 SHD
8 SHP
9 GND
10 H1
11 H2
12 ØRG
13 SG1
14 SG2
15 V1
16 V2
17 V3
18 V4
19 VSUB
20 D0
21 D1
22 D2
23 D3
24 D4
25 D5
26 D6
27 D7
28
29 WND
30 IRIS DET
TO PROCESS CNP01
CND04
1 20V
2 15V
3 −10V
4 5V
5 GND
6 GND
7 UNREG
8 GND
9 IRIS REF
10 AGC REF
11 VSUB REF
12 ØRG CTRL
13 Y-γ CTRL
14 HALL OFFSET
15 VSUB DC OUT
16 HALL OUT
17 REF 3V
18 RESET
19 F. CW/CCW
20 F. CLK
21 F. REF
22 Z. A+
23 Z. A−
24 Z. B+
25 Z. B−
26 C-γ CTRL
27 F. SENSE
28 Z. SENSE
29 F1
30 F0
TO PROCESS CNP02

# 13. SCHEMATIC DIAGRAMS

Page

* SEMICONDUCTORS
* BLOCK IDENTIFICATION OF MAIN PCB

13-1. ADAPTOR ---------------------------- 13-4
13-2. DC/DC CONVERTER --------------------- 13-5
13-3. SYSTEM CONTROL/SERVO ---------------- 13-6
13-4. VIDEO ------------------------------- 13-8
13-5. AUDIO ------------------------------- 13-10
13-6. HOT SHOE ---------------------------- 13-11
13-7. DECK FPC ---------------------------- 13-11
13-8. CCD --------------------------------- 13-12
13-9. PROCESS ----------------------------- 13-14
13-10. EVF -------------------------------- 13-16

**NOTE**

- For Schematic Diagram
  - Resistors are in ohms, 1/8W unless otherwise noted.
  - Circled numbers refer to waveforms.

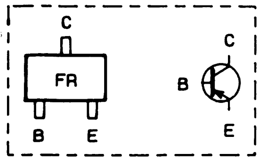
**SPECIAL NOTE :**
All integratedcircuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostically sensitive (ES) devices" section of this service manual.

**NOTE :**
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the the parts list. And may be slightly different or amended since this drawing was prepared.

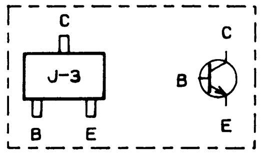
**INFORTANT SAFETY NOTICES :**
Components identified with the mark ⚠ have the special characteristics for safety when replacing any of these components. Use only the same type.

## * SEMICONDUCTORS

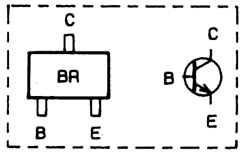
2SA1576



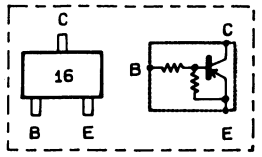
2SC3142



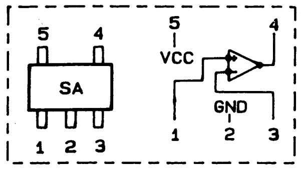
2SC4081



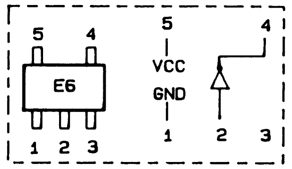
DTA144EU



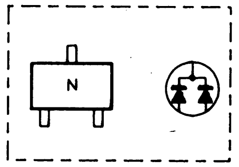
TA75501F


5 4
SA
1 2 3
5 4
VCC
GND
1 2 3

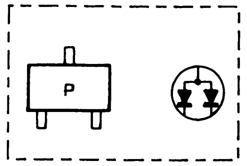
TC7SU04F


5 4
E6
1 2 3
5 4
VCC
GND
1 2 3

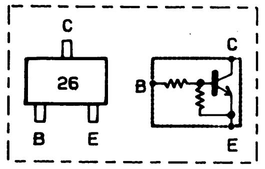
DAN202U



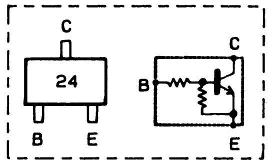
DAP202U



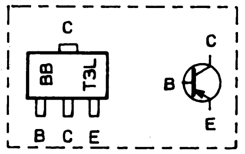
DTC144EU



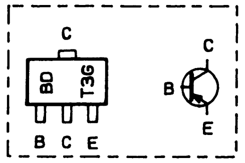
DTC114EU



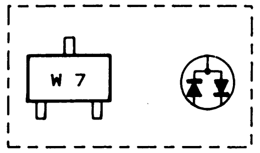
2SB1119


C
BB T3L
B C E
C
B
E

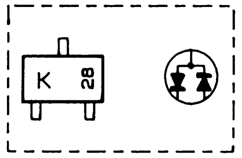
2SB1121


C
BD T3G
B C E
C
B
E

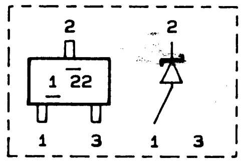
DCC010



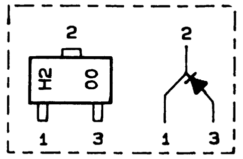
DA204K



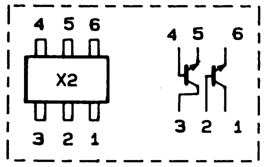
RD12M



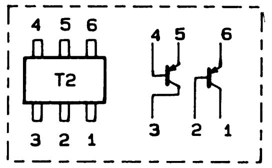
E10QS03


2
H2 00
1 3
2
1 3

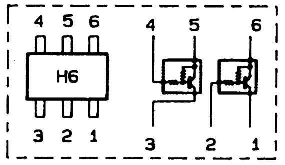
UMX2


4 5 6
X2
3 2 1
4 5 6
3 2 1

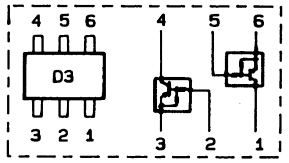
UMT2


4 5 6
T2
3 2 1
4 5 6
3 2 1

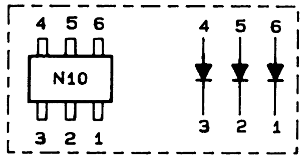
UMH6


4 5 6
H6
3 2 1
4 5 6
3 2 1

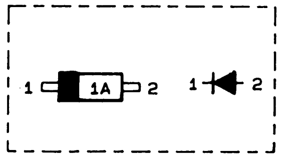
UMD3


4 5 6
D3
3 2 1
4 5 6
3 2 1

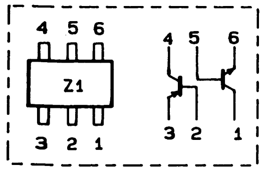
IMN10


4 5 6
N10
3 2 1
4 5 6
3 2 1

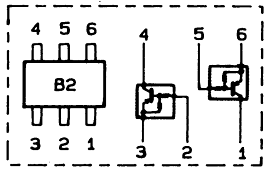
MA110



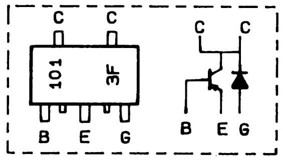
UMZ1


4 5 6
Z1
3 2 1
4 5 6
3 2 1

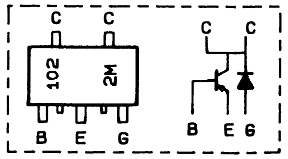
IMB2


4 5 6
B2
3 2 1
4 5 6
3 2 1

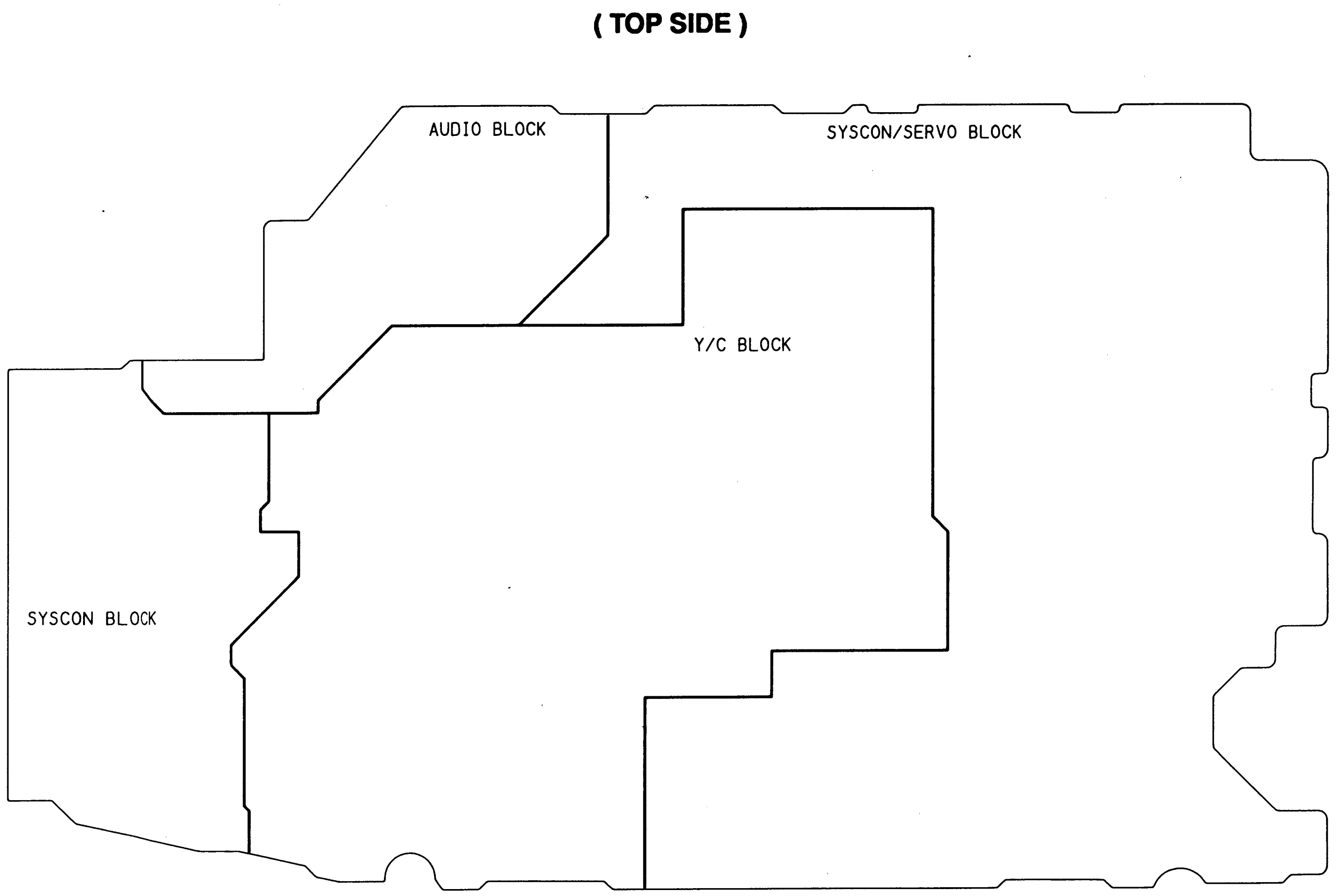
FP101

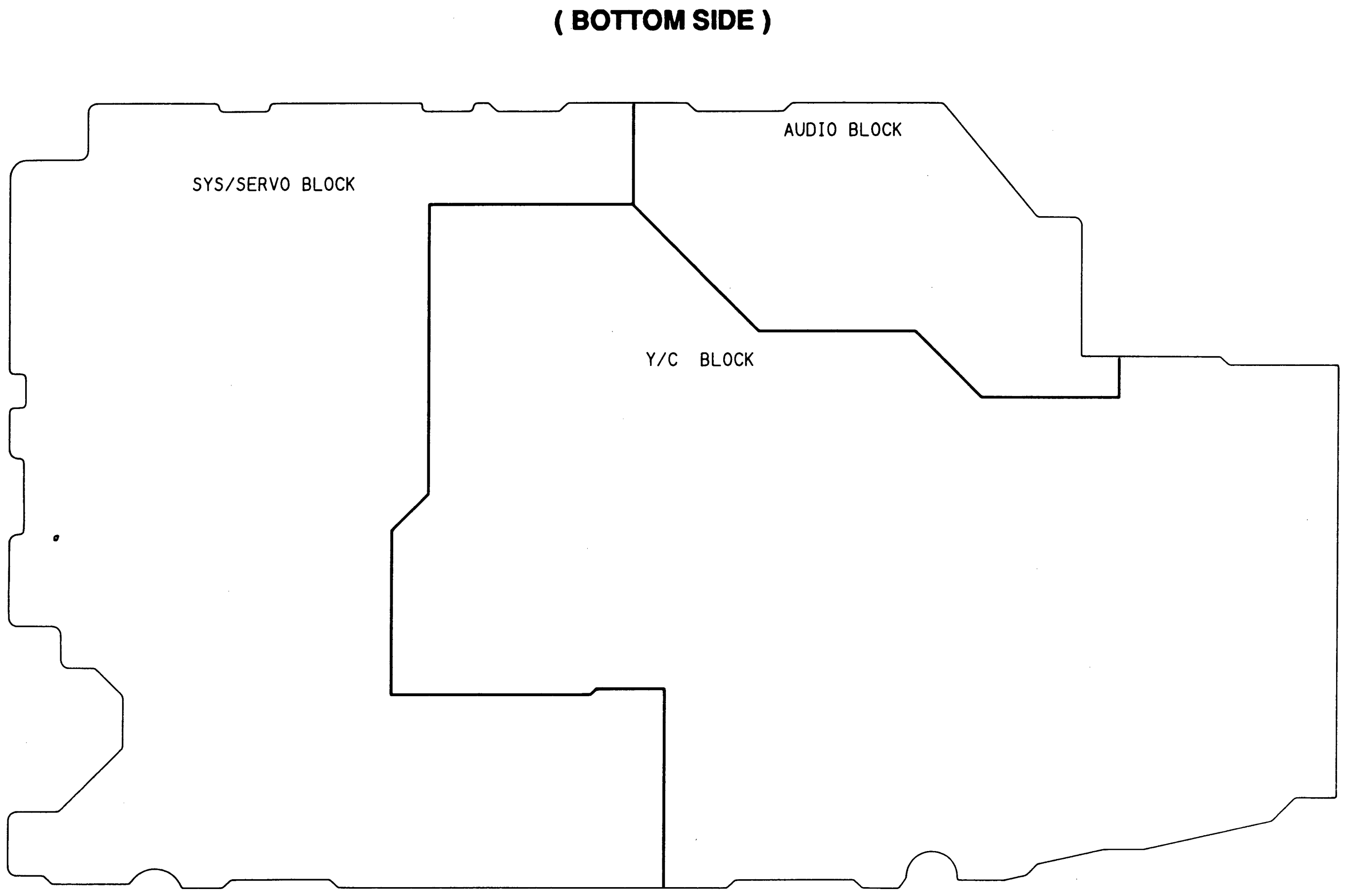

C C
101 3F
B E G
C C
B E G

FP102

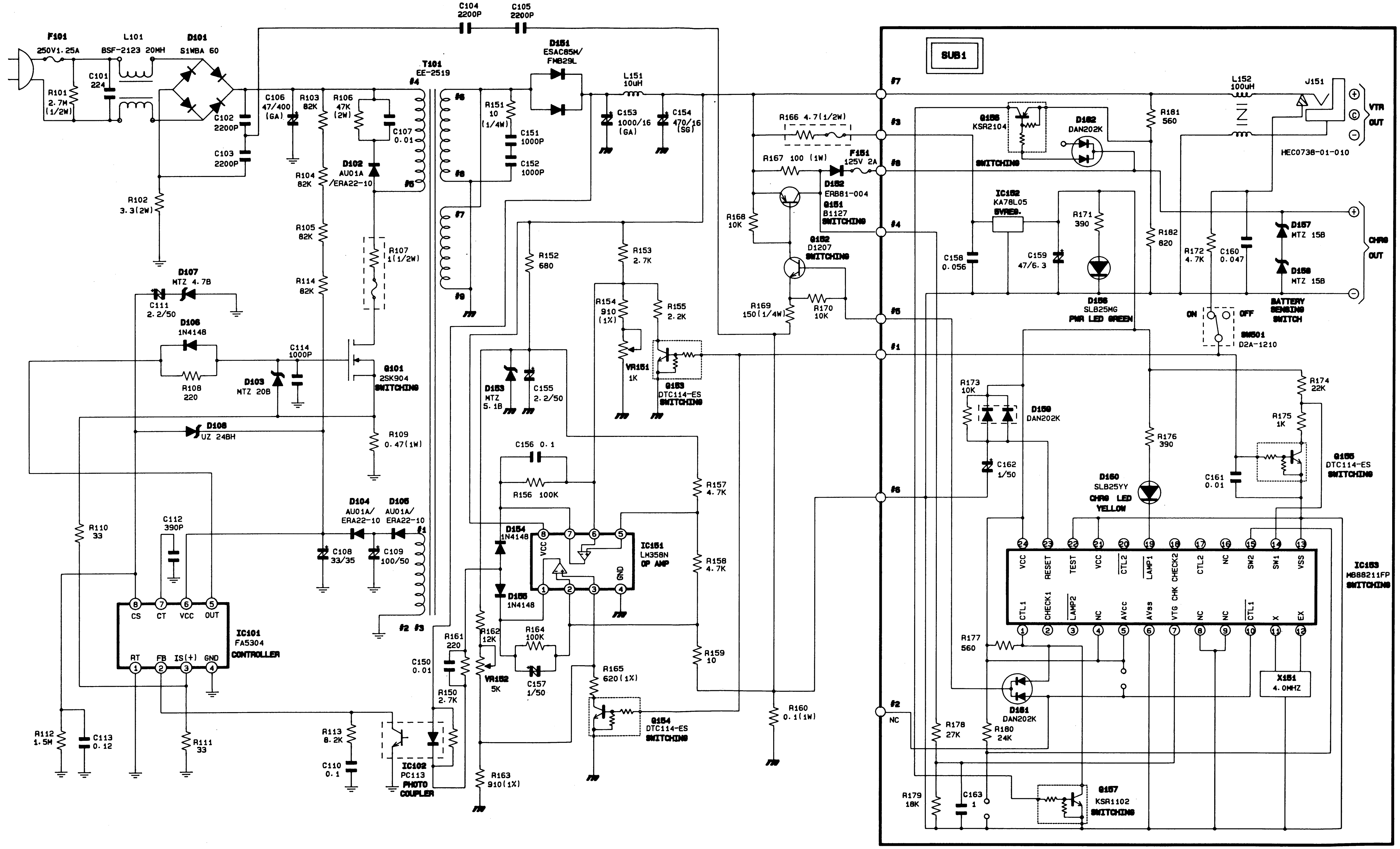

C C
102 2M
B E G
C C
B E G

## * BLOCK IDENTIFICATION OF MAIN PCB


( TOP SIDE )
AUDIO BLOCK
SYSCON/SERVO BLOCK
Y/C BLOCK
SYSCON BLOCK

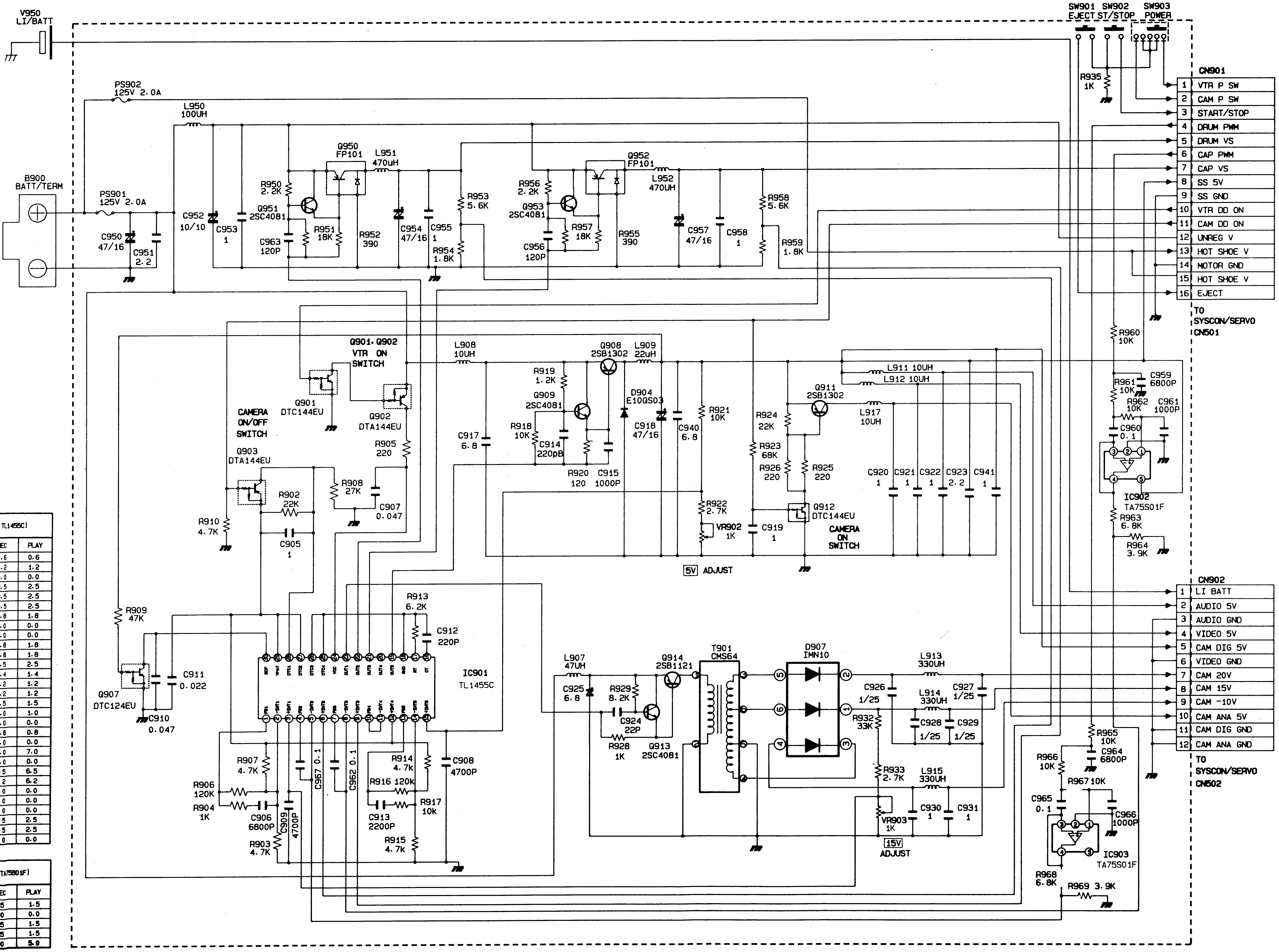

( BOTTOM SIDE )
AUDIO BLOCK
SYS/SERVO BLOCK
Y/C BLOCK

## 13-1. ADAPTOR


F101
250V1.25A
L101
BSF-2123 20MH
D101
S1WBA 60
R101
2.7M
(1/2W)
C101
224
C102
2200P
C103
2200P
R102
3.3(2W)
C104
2200P
C105
2200P
T101
EE-2519
C106
47/400
(GA)
R103
82K
R106
47K
(2W)
C107
0.01
D102
AU01A
/ERA22-10
R104
82K
R105
82K
R107
1(1/2W)
R114
82K
D107
MTZ 4.7B
C111
2.2/50
D106
1N4148
R108
220
C114
1000P
D103
MTZ 20B
Q101
2SK904
SWITCHING
D108
UZ 24BH
R109
0.47(1W)
R110
33
C112
390P
D104
AU01A/
ERA22-10
D105
AU01A/
ERA22-10
C108
33/35
C109
100/50
IC101
FA5304
CONTROLLER
CS
CT
VCC
OUT
RT
FB
IS(+)
GND
R112
1.5M
C113
0.12
R111
33
R113
8.2K
C110
0.1
IC102
PC113
PHOTO
COUPLER
C150
0.01
R161
220
R150
2.7K
R162
12K
VR152
5K
R163
910(1%)
D151
ESAC85M/
FMB29L
R151
10
(1/4W)
C151
1000P
C152
1000P
L151
10uH
C153
1000/16
(GA)
C154
470/16
(SG)
R152
680
D153
MTZ
5.1B
C155
2.2/50
R153
2.7K
R154
910
(1%)
VR151
1K
R155
2.2K
Q153
DTC114-ES
SWITCHING
C156 0.1
R156 100K
D154
1N4148
D155
1N4148
IC151
LM358N
OP AMP
R164
100K
C157
1/50
R165
620(1%)
Q154
DTC114-ES
SWITCHING
R157
4.7K
R158
4.7K
R159
10
R160
0.1(1W)
R166 4.7(1/2W)
R167 100 (1W)
F151
125V 2A
D152
ERB81-004
Q151
B1127
SWITCHING
R168
10K
Q152
D1207
SWITCHING
R169
150(1/4W)
R170
10K
SUB1
Q156
KSR2104
SWITCHING
D162
DAN202K
IC152
KA78L05
5VREG.
R171
390
C158
0.056
C159
47/6.3
D156
SLB25MG
PWR LED GREEN
R181
560
R182
820
L152
100uH
J151
VTR
OUT
HEC0738-01-010
R172
4.7K
C160
0.047
D157
MTZ 15B
D158
MTZ 15B
CHRG
OUT
BATTERY
SENSING
SWITCH
ON
OFF
SW501
D2A-1210
R173
10K
D159
DAN202K
C162
1/50
R176
390
D160
SLB25YY
CHRG LED
YELLOW
R174
22K
R175
1K
Q155
DTC114-ES
SWITCHING
C161
0.01
IC153
MB88211FP
SWITCHING
VCC
RESET
TEST
VCC
CTL2
LAMP1
CHECK2
CTL2
NC
SW2
SW1
VSS
CTL1
CHECK1
LAMP2
NC
AVcc
AVss
VTG CHK
NC
NC
CTL1
X
EX
R177
560
D161
DAN202K
X151
4.0MHZ
NC
R178
27K
R180
24K
R179
18K
C163
1
Q157
KSR1102
SWITCHING

NOTE : ' ○ ' IS CONNECTED WITH JUMPER IN THE BOARD

## 13-2. DC/DC CONVERTER


V950
LI/BATT
PS902
125V 2.0A
L950
100UH
B900
BATT/TERM
PS901
125V 2.0A
C950
47/16
C951
2.2
C952
10/10
C953
1
Q950
FP101
L951
470uH
R950
2.2K
Q951
2SC4081
R951
18K
C963
120P
R952
390
C954
47/16
C955
1
R953
5.6K
R954
1.8K
Q952
FP101
L952
470UH
R956
2.2K
Q953
2SC4081
R957
18K
C956
120P
R955
390
C957
47/16
C958
1
R958
5.6K
R959
1.8K
SW901
EJECT
SW902
ST/STOP
SW903
POWER
R935
1K
CN901
1 VTR P SW
2 CAM P SW
3 START/STOP
4 DRUM PWM
5 DRUM VS
6 CAP PWM
7 CAP VS
8 SS 5V
9 SS GND
10 VTR DD ON
11 CAM DD ON
12 UNREG V
13 HOT SHOE V
14 MOTOR GND
15 HOT SHOE V
16 EJECT
TO
SYSCON/SERVO
CN501
Q901·Q902
VTR ON
SWITCH
Q901
DTC144EU
Q902
DTA144EU
CAMERA
ON/OFF
SWITCH
Q903
DTA144EU
R905
220
R908
27K
C907
0.047
R902
22K
C905
1
R910
4.7K
L908
10UH
Q908
2SB1302
L909
22uH
R919
1.2K
Q909
2SC4081
D904
E10QS03
C917
6.8
R918
10K
C914
220pB
R920
120
C915
1000P
C918
47/16
C940
6.8
R921
10K
R922
2.7K
VR902
1K
5V ADJUST
R924
22K
R923
68K
R926
220
R925
220
Q911
2SB1302
L911 10UH
L912 10UH
L917
10UH
C919
1
Q912
DTC144EU
CAMERA
ON
SWITCH
C920
1
C921
1
C922
1
C923
2.2
C941
1
R960
10K
R961
10K
C959
6800P
R962
10K
C961
1000P
C960
0.1
IC902
TA75S01F
R963
6.8K
R964
3.9K
CN902
1 LI BATT
2 AUDIO 5V
3 AUDIO GND
4 VIDEO 5V
5 CAM DIG 5V
6 VIDEO GND
7 CAM 20V
8 CAM 15V
9 CAM -10V
10 CAM ANA 5V
11 CAM DIG GND
12 CAM ANA GND
TO
SYSCON/SERVO
CN502
R909
47K
Q907
DTC124EU
C911
0.022
C910
0.047
R913
6.2K
C912
220P
IC901
TL1455C
R907
4.7K
R906
120K
R904
1K
C906
6800P
C909
4700P
R903
4.7K
C967 0.1
C962 0.1
R914
4.7k
R916 120K
C913
2200P
R917
10K
R915
4.7k
C908
4700P
L907
47UH
C925
6.8
R929
8.2K
C924
22P
R928
1K
Q913
2SC4081
Q914
2SB1121
T901
CMS64
D907
IMN10
L913
330UH
C926
1/25
L914
330UH
C927
1/25
C928
1/25
C929
1/25
R932
33K
R933
2.7K
L915
330UH
VR903
1K
C930
1
C931
1
15V
ADJUST
R965
10K
C964
6800P
R966
10K
R967 10K
C965
0.1
C966
1000P
IC903
TA75S01F
R968
6.8K
R969 3.9K

| IC 901 (TL1455C) | | |
|---|---|---|
| PIN NO. | REC | PLAY |
| 1 | 0.6 | 0.6 |
| 2 | 1.2 | 1.2 |
| 3 | 0.0 | 0.0 |
| 4 | 2.5 | 2.5 |
| 5 | 2.5 | 2.5 |
| 6 | 2.5 | 2.5 |
| 7 | 1.8 | 1.8 |
| 8 | 0.0 | 0.0 |
| 9 | 0.0 | 0.0 |
| 10 | 1.8 | 1.8 |
| 11 | 1.8 | 1.8 |
| 12 | 2.5 | 2.5 |
| 13 | 1.4 | 1.4 |
| 14 | 1.2 | 1.2 |
| 15 | 1.2 | 1.2 |
| 16 | 1.5 | 1.5 |
| 17 | 1.0 | 1.0 |
| 18 | 0.0 | 0.0 |
| 19 | 0.8 | 0.8 |
| 20 | 0.0 | 0.0 |
| 21 | 7.0 | 7.0 |
| 22 | 0.0 | 0.0 |
| 23 | 6.5 | 6.5 |
| 24 | 6.2 | 6.2 |
| 25 | 0.0 | 0.0 |
| 26 | 0.0 | 0.0 |
| 27 | 0.0 | 0.0 |
| 28 | 2.5 | 2.5 |
| 29 | 2.5 | 2.5 |
| 30 | 0.0 | 0.0 |

| IC 902 (TA75S01F) | | |
|---|---|---|
| PIN NO. | REC | PLAY |
| 1 | 1.5 | 1.5 |
| 2 | 0.0 | 0.0 |
| 3 | 1.5 | 1.5 |
| 4 | 1.5 | 1.5 |
| 5 | 5.0 | 5.0 |

## 13-3. SYSTEM CONTROL/SERVO

The schematic diagram of "SYSTEM CONTROL/SERVO" is on page 13-17.

IC 503 (CXP80P724)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | 0.0 | 0.0 |
| 2 | 5.0 | 5.0 |
| 3 | N.C | N.C |
| 4 | 0.0 | 0.0 |
| 5 | 0.0 | 5.0 |
| 6 | 5.0 | 5.0 |
| 7 | 5.0 | 5.0 |
| 8 | 5.0 | 5.0 |
| 9 | 5.0 | 5.0 |
| 10 | 5.0 | 5.0 |
| 11 | 0.0 | 0.0 |
| 12 | 5.0 | 5.0 |
| 13 | 0.0 | 0.0 |
| 14 | 0.0 | 0.0 |
| 15 | 5.0 | 0.0 |
| 16 | 0.0 | 5.0 |
| 17 | 0.0 | 0.0 |
| 18 | 5.0 | 5.0 |
| 19 | 5.0 | 5.0 |
| 20 | 5.0 | 5.0 |
| 21 | 5.0 | 5.0 |
| 22 | 0.0 | 0.0 |
| 23 | 5.0 | 5.0 |
| 24 | 5.0 | 5.0 |
| 25 | 5.0 | 5.0 |
| 26 | 0.0 | 0.0 |
| 27 | 5.0 | 5.0 |
| 28 | 5.0 | 5.0 |
| 29 | 0.0 | 0.0 |
| 30 | 5.0 | 5.0 |
| 31 | 5.0 | 5.0 |
| 32 | 0.0 | 5.0 |
| 33 | 0.0 | 0.0 |
| 34 | 5.0 | 5.0 |
| 35 | 0.0 | 0.0 |
| 36 | 5.0 | 5.0 |
| 37 | 5.0 | 5.0 |
| 38 | 5.0 | 5.0 |
| 39 | 0.0 | 0.0 |
| 40 | 5.0 | 5.0 |
| 41 | 0.0 | 0.0 |
| 42 | 0.S | 0.S |
| 43 | 0.S | 0.S |
| 44 | 5.0 | 5.0 |
| 45 | 0.0 | 0.0 |
| 46 | 5.0 | 5.0 |
| 47 | 5.0 | 5.0 |
| 48 | 5.0 | 5.0 |
| 49 | 5.0 | 5.0 |
| 50 | 4.5 | 4.5 |
| 51 | 0.0 | 0.0 |
| 52 | 0.0 | 0.0 |
| 53 | 5.0 | 5.0 |
| 54 | 5.0 | 5.0 |
| 55 | N.C | N.C |
| 56 | 0.0 | 0.0 |
| 57 | 0.0 | 0.0 |
| 58 | 5.0 | 5.0 |
| 59 | 0.0 | 0.0 |
| 60 | 4.3 | 4.3 |
| 61 | 3.2 | 3.4 |
| 62 | 1.2 | 4.5 |
| 63 | 5.0 | 5.0 |
| 64 | 5.0 | 5.0 |
| 65 | 0.0 | 0.0 |
| 66 | 3.0 | 3.0 |
| 67 | 0.0 | 0.0 |
| 68 | 5.0 | 5.0 |
| 69 | 5.0 | 5.0 |
| 70 | 5.0 | 5.0 |
| 71 | N.C | N.C |
| 72 | N.C | N.C |
| 73 | 0.0 | 0.0 |
| 74 | 0.0 | 0.0 |
| 75 | 5.0 | 5.0 |
| 76 | 5.0 | 5.0 |
| 77 | 5.0 | 5.0 |
| 78 | 5.0 | 5.0 |
| 79 | 5.0 | 5.0 |
| 80 | 5.0 | 5.0 |
| 81 | 5.0 | 5.0 |
| 82 | 5.0 | 5.0 |
| 83 | 5.0 | 5.0 |
| 84 | 5.0 | 5.0 |
| 85 | 5.0 | 5.0 |
| 86 | 0.S | 0.S |
| 87 | 0.S | 0.S |
| 88 | 0.0 | 0.0 |
| 89 | 5.0 | 5.0 |
| 90 | 5.0 | 5.0 |
| 91 | 0.0 | 0.0 |
| 92 | 0.0 | 0.0 |
| 93 | 0.0 | 5.0 |
| 94 | 0.0 | 5.0 |
| 95 | 5.0 | 5.0 |
| 96 | 5.0 | 5.0 |
| 97 | 5.0 | 5.0 |
| 98 | 5.0 | 5.0 |
| 99 | 5.0 | 5.0 |
| 100 | 5.0 | 5.0 |

IC 501 (S-8420BF-T1)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | 5.0 | 5.0 |
| 2 | N.C | N.C |
| 3 | 5.0 | 5.0 |
| 4 | 0.0 | 0.0 |
| 5 | 5.0 | 5.0 |
| 6 | 0.0 | 0.0 |
| 7 | 5.0 | 5.0 |
| 8 | 7.0 | 7.0 |

IC 502 (BA6285FS)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | 0.0 | 0.0 |
| 2 | N.C | N.C |
| 3 | 0.0 | 0.0 |
| 4 | 7.0 | 7.0 |
| 5 | 7.0 | 7.0 |
| 6 | 0.0 | 0.0 |
| 7 | N.C | N.C |
| 8 | N.C | N.C |
| 9 | N.C | N.C |
| 10 | N.C | N.C |
| 11 | 0.0 | 0.0 |
| 12 | 0.0 | 0.0 |
| 13 | N.C | N.C |
| 14 | 0.0 | 0.0 |
| 15 | 0.0 | 0.0 |
| 16 | 0.0 | 0.0 |

IC 504 (KA8322)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | 1.8 | 1.8 |
| 2 | 0.0 | 5.0 |
| 3 | 2.5 | 2.5 |
| 4 | 2.5 | 2.5 |
| 5 | 2.5 | 2.5 |
| 6 | 2.5 | 2.5 |
| 7 | N.C | N.C |
| 8 | N.C | N.C |
| 9 | N.C | N.C |
| 10 | 2.5 | 2.5 |
| 11 | 2.5 | 2.5 |
| 12 | 2.5 | 2.5 |
| 13 | 0.0 | 0.0 |
| 14 | 2.0 | 2.0 |
| 15 | 0.0 | 4.0 |
| 16 | 2.5 | 2.5 |
| 17 | 3.2 | 3.2 |
| 18 | 0.0 | 5.0 |
| 19 | 0.0 | 4.0 |
| 20 | 0.0 | 0.0 |
| 21 | 0.0 | 0.0 |
| 22 | 0.0 | 0.0 |
| 23 | 5.0 | 5.0 |
| 24 | 3.2 | 3.2 |
| 25 | 0.0 | 3.5 |
| 26 | 0.0 | 0.0 |
| 27 | 5.0 | 5.0 |
| 28 | 4.0 | 4.0 |
| 29 | 4.0 | 4.0 |
| 30 | 5.0 | 5.0 |
| 31 | 0.0 | 0.0 |
| 32 | 0.0 | 0.0 |
| 33 | N.C | N.C |
| 34 | 0.S | 0.S |
| 35 | 0.S | 0.S |
| 36 | 0.0 | 0.0 |
| 37 | 0.0 | 0.0 |
| 38 | 5.0 | 5.0 |
| 39 | 0.0 | 0.0 |
| 40 | 0.0 | 0.0 |
| 41 | 0.0 | 0.0 |
| 42 | 0.0 | 0.0 |
| 43 | 0.0 | 0.0 |
| 44 | 0.0 | 0.0 |
| 45 | 5.0 | 5.0 |
| 46 | 2.5 | 2.5 |
| 47 | 0.0 | 0.0 |
| 48 | 5.0 | 2.5 |
| 49 | 3.0 | 3.0 |
| 50 | 2.5 | 2.5 |
| 51 | 2.5 | 2.5 |
| 52 | 2.5 | 2.5 |
| 53 | 5.0 | 5.0 |
| 54 | 2.5 | 2.5 |
| 55 | 2.5 | 2.5 |
| 56 | 2.5 | 2.5 |
| 57 | 2.5 | 2.5 |
| 58 | 0.0 | 2.5 |
| 59 | 0.0 | 2.2 |
| 60 | 2.5 | 2.5 |
| 61 | 5.0 | 5.0 |
| 62 | 3.2 | 3.2 |
| 63 | 2.5 | 2.5 |
| 64 | 3.2 | 3.2 |

IC 508 (BU5997)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | N.C | N.C |
| 2 | 5.0 | 5.0 |
| 3 | 5.0 | 5.0 |
| 4 | 5.0 | 5.0 |
| 5 | 5.0 | 5.0 |
| 6 | 5.0 | 5.0 |
| 7 | N.C | N.C |
| 8 | 5.0 | 5.0 |
| 9 | 5.0 | 5.0 |
| 10 | N.C | N.C |
| 11 | N.C | N.C |
| 12 | 5.0 | 5.0 |
| 13 | 5.0 | 5.0 |
| 14 | 0.0 | 0.0 |
| 15 | N.C | N.C |
| 16 | 5.0 | 5.0 |
| 17 | 0.0 | 0.0 |
| 18 | 5.0 | 5.0 |
| 19 | 5.0 | 5.0 |
| 20 | 5.0 | 5.0 |

IC 505 (TPIC1327DF)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | N.C | N.C |
| 2 | N.C | N.C |
| 3 | 0.0 | 0.0 |
| 4 | 0.0 | 0.0 |
| 5 | 0.0 | 0.0 |
| 6 | N.C | N.C |
| 7 | 5.0 | 5.0 |
| 8 | 6.0 | 6.0 |
| 9 | 6.0 | 6.0 |
| 10 | 0.0 | 0.0 |
| 11 | N.C | N.C |
| 12 | 0.0 | 0.0 |
| 13 | 1.5 | 1.5 |
| 14 | 0.0 | 0.0 |
| 15 | 0.0 | 0.0 |
| 16 | 0.0 | 0.0 |
| 17 | 0.0 | 0.0 |
| 18 | 0.0 | 0.0 |
| 19 | 1.5 | 1.5 |
| 20 | 0.0 | 0.0 |
| 21 | 0.0 | 0.0 |
| 22 | 0.0 | 0.0 |
| 23 | 0.0 | 0.0 |
| 24 | N.C | N.C |
| 25 | N.C | N.C |
| 26 | N.C | N.C |
| 27 | N.C | N.C |
| 28 | N.C | N.C |
| 29 | N.C | N.C |
| 30 | N.C | N.C |

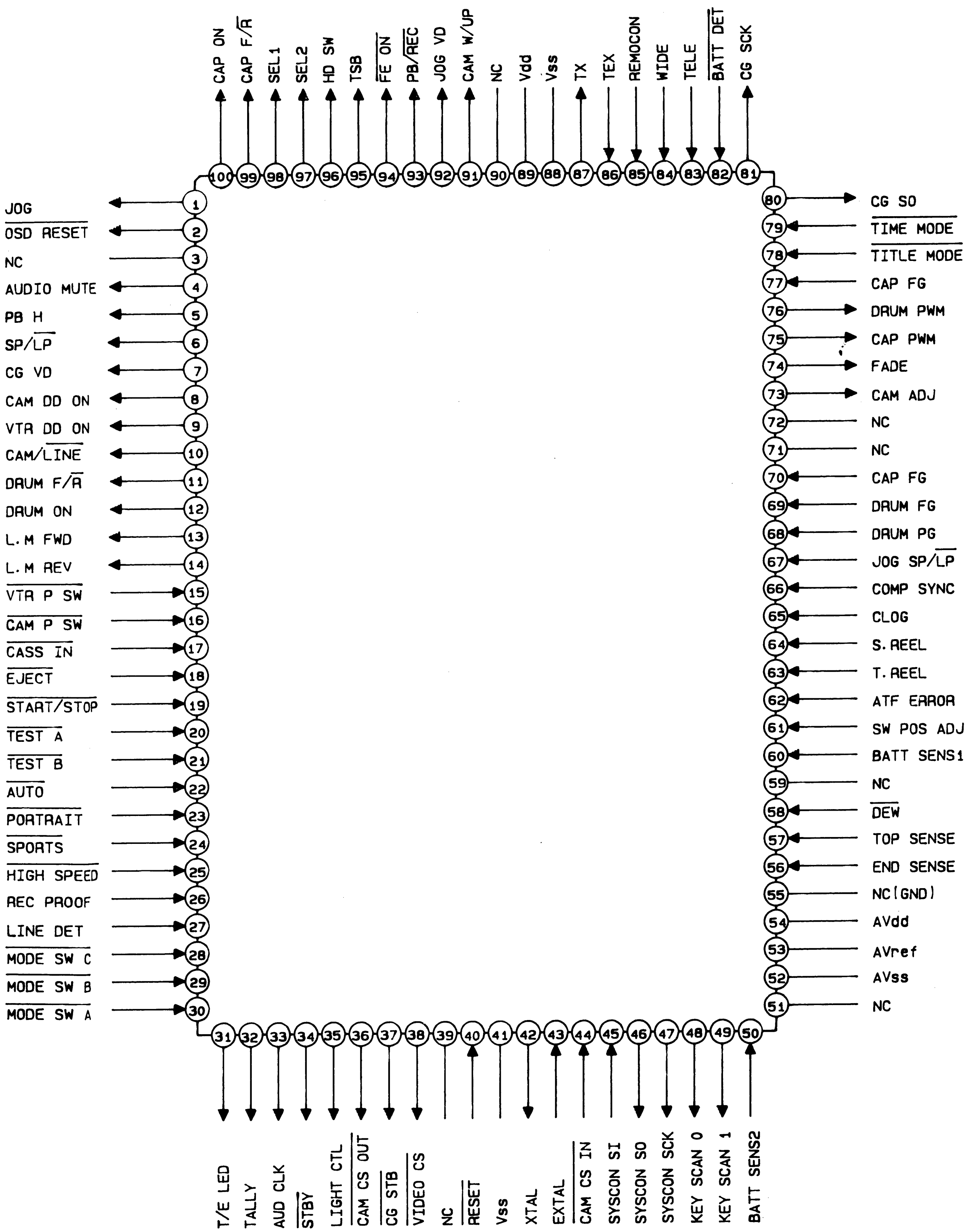
IC 506 (LB1851M)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | 0.0 | 0.0 |
| 2 | 0.0 | 0.0 |
| 3 | 0.0 | 0.0 |
| 4 | 2.0 | 2.0 |
| 5 | 7.0 | 7.0 |
| 6 | 5.0 | 5.0 |
| 7 | 5.0 | 5.0 |
| 8 | 0.0 | 0.0 |
| 9 | N.C | N.C |
| 10 | 2.5 | 2.5 |
| 11 | 2.5 | 2.5 |
| 12 | 2.5 | 2.5 |
| 13 | 2.5 | 5.0 |
| 14 | 0.0 | 0.0 |
| 15 | 0.0 | 0.0 |
| 16 | 0.0 | 0.0 |
| 17 | 0.0 | 0.0 |
| 18 | 5.0 | 5.0 |
| 19 | N.C | N.C |
| 20 | 1.3 | 1.3 |
| 21 | 1.3 | 1.3 |
| 22 | 2.5 | 2.5 |
| 23 | 2.5 | 2.5 |
| 24 | 3.5 | 3.5 |
| 25 | 3.5 | 3.5 |
| 26 | 0.0 | 0.0 |
| 27 | 0.0 | 0.0 |
| 28 | 0.0 | 0.0 |
| 29 | 0.0 | 0.0 |
| 30 | 0.0 | 0.0 |

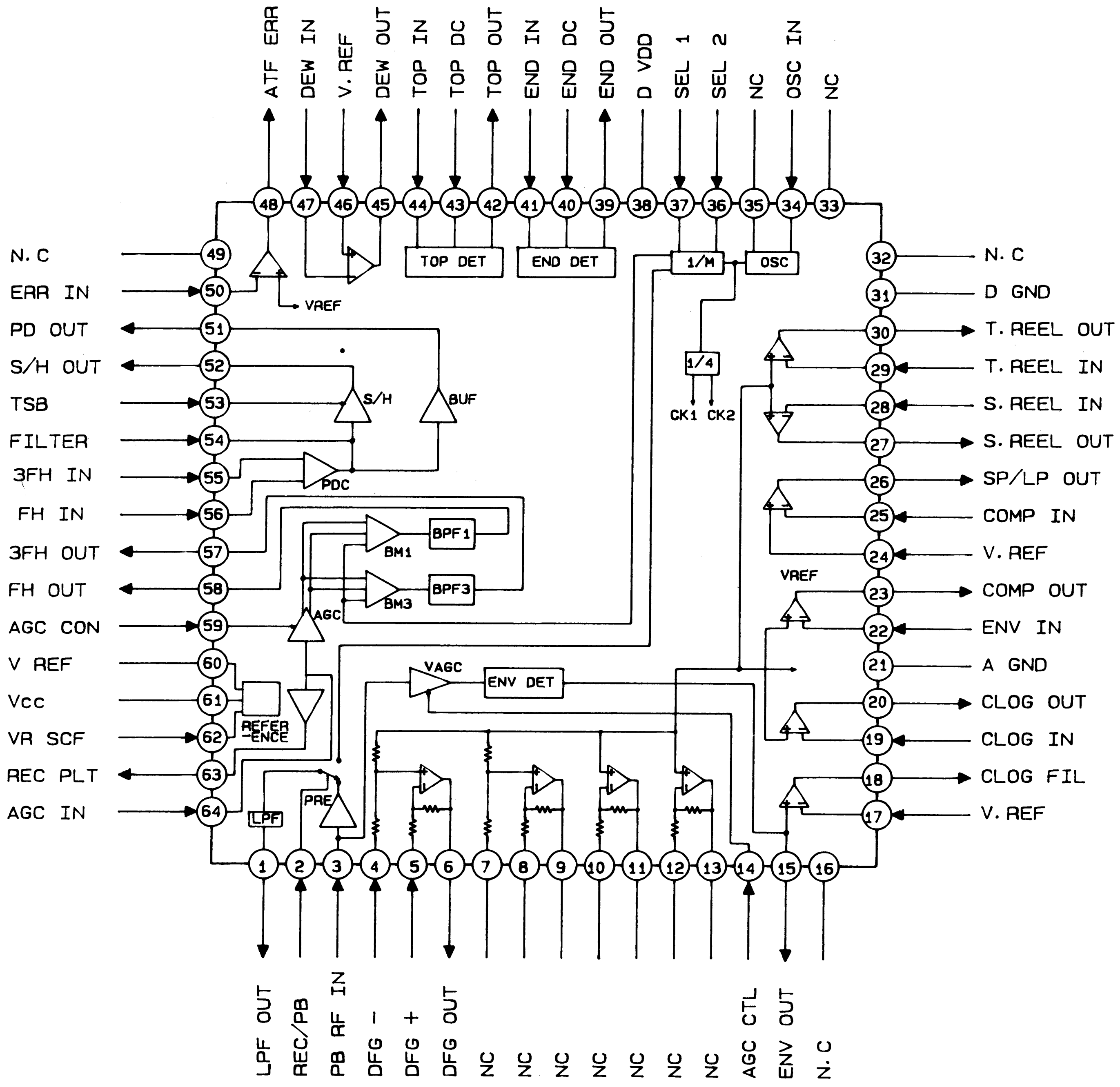
IC 507 (TC7SU04F)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | N.C | N.C |
| 2 | 0.S | 0.S |
| 3 | 0.0 | 0.0 |
| 4 | 0.S | 0.S |
| 5 | 5.0 | 5.0 |

**IC503 CXP80724**


1 JOG
2 OSD RESET
3 NC
4 AUDIO MUTE
5 PB H
6 SP/LP
7 CG VD
8 CAM DD ON
9 VTR DD ON
10 CAM/LINE
11 DRUM F/R
12 DRUM ON
13 L.M FWD
14 L.M REV
15 VTR P SW
16 CAM P SW
17 CASS IN
18 EJECT
19 START/STOP
20 TEST A
21 TEST B
22 AUTO
23 PORTRAIT
24 SPORTS
25 HIGH SPEED
26 REC PROOF
27 LINE DET
28 MODE SW C
29 MODE SW B
30 MODE SW A
31 T/E LED
32 TALLY
33 AUD CLK
34 STBY
35 LIGHT CTL
36 CAM CS OUT
37 CG STB
38 VIDEO CS
39 NC
40 RESET
41 Vss
42 XTAL
43 EXTAL
44 CAM CS IN
45 SYSCON SI
46 SYSCON SO
47 SYSCON SCK
48 KEY SCAN 0
49 KEY SCAN 1
50 BATT SENS2
51 NC
52 AVss
53 AVref
54 AVdd
55 NC(GND)
56 END SENSE
57 TOP SENSE
58 DEW
59 NC
60 BATT SENS1
61 SW POS ADJ
62 ATF ERROR
63 T.REEL
64 S.REEL
65 CLOG
66 COMP SYNC
67 JOG SP/LP
68 DRUM PG
69 DRUM FG
70 CAP FG
71 NC
72 NC
73 CAM ADJ
74 FADE
75 CAP PWM
76 DRUM PWM
77 CAP FG
78 TITLE MODE
79 TIME MODE
80 CG SO
81 CG SCK
82 BATT DET
83 TELE
84 WIDE
85 REMOCON
86 TEX
87 TX
88 Vss
89 Vdd
90 NC
91 CAM W/UP
92 JOG VD
93 PB/REC
94 FE ON
95 TSB
96 HD SW
97 SEL2
98 SEL1
99 CAP F/R
100 CAP ON

**IC504 KA8322**


1 LPF OUT
2 REC/PB
3 PB RF IN
4 DFG -
5 DFG +
6 DFG OUT
7 NC
8 NC
9 NC
10 NC
11 NC
12 NC
13 NC
14 AGC CTL
15 ENV OUT
16 N.C
17 V.REF
18 CLOG FIL
19 CLOG IN
20 CLOG OUT
21 A GND
22 ENV IN
23 COMP OUT
24 V.REF
25 COMP IN
26 SP/LP OUT
27 S.REEL OUT
28 S.REEL IN
29 T.REEL IN
30 T.REEL OUT
31 D GND
32 N.C
33 NC
34 OSC IN
35 NC
36 SEL 2
37 SEL 1
38 D VDD
39 END OUT
40 END DC
41 END IN
42 TOP OUT
43 TOP DC
44 TOP IN
45 DEW OUT
46 V.REF
47 DEW IN
48 ATF ERR
49 N.C
50 ERR IN
51 PD OUT
52 S/H OUT
53 TSB
54 FILTER
55 3FH IN
56 FH IN
57 3FH OUT
58 FH OUT
59 AGC CON
60 V REF
61 Vcc
62 VR SCF
63 REC PLT
64 AGC IN
TOP DET
END DET
1/M
OSC
VREF
S/H
BUF
1/4
CK1
CK2
PDC
BPF1
BM1
BPF3
BM3
AGC
VAGC
ENV DET
VREF
REFERENCE
LPF
PRE

## 13-4. VIDEO

The schematic diagram of "VIDEO" is on page 13-18.

IC 101 (NJM2249M)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | 1.8 | 1.8 |
| 2 | 0.0 | 0.0 |
| 3 | 2.3 | 2.3 |
| 4 | 0.0 | 0.0 |
| 5 | 2.8 | 2.8 |
| 6 | 5.0 | 5.0 |
| 7 | 1.2 | 1.2 |
| 8 | 0.0 | 0.0 |

IC 103 (CXL1506)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | 1.8 | 1.8 |
| 2 | 2.2 | 2.2 |
| 3 | 0.0 | 0.0 |
| 4 | 1.4 | 1.4 |
| 5 | 0.0 | 0.0 |
| 6 | 1.6 | 1.6 |
| 7 | 0.0 | 0.0 |
| 8 | 0.0 | 0.0 |
| 9 | 4.7 | 4.7 |
| 10 | 4.7 | 4.7 |
| 11 | 0.0 | 0.0 |
| 12 | 1.8 | 1.8 |
| 13 | 1.8 | 1.8 |
| 14 | 4.7 | 4.7 |
| 15 | 0.6 | 0.6 |
| 16 | 0.0 | 0.0 |

IC 104 (CXA1700)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | 0.6 | 0.7 |
| 2 | 2.2 | 2.1 |
| 3 | 2.1 | 2.1 |
| 4 | 2.0 | 2.0 |
| 5 | 2.0 | 2.0 |
| 6 | 2.0 | 2.0 |
| 7 | 0.0 | 2.0 |
| 8 | 2.0 | 0.0 |
| 9 | 2.0 | 2.0 |
| 10 | 2.0 | 2.0 |
| 11 | 2.0 | 2.0 |
| 12 | 2.0 | 2.0 |
| 13 | 2.5 | 2.5 |
| 14 | 1.3 | 1.6 |
| 15 | 3.0 | 3.0 |
| 16 | 2.9 | 2.9 |
| 17 | 0.0 | 0.0 |
| 18 | 3.1 | 3.1 |
| 19 | 1.9 | 2.0 |
| 20 | 3.0 | 3.0 |
| 21 | 1.9 | 2.0 |
| 22 | 2.9 | 2.9 |
| 23 | 2.3 | 2.5 |
| 24 | 3.0 | 3.0 |
| 25 | 4.9 | 5.0 |
| 26 | 0.0 | 0.0 |
| 27 | 2.7 | 2.7 |
| 28 | 2.2 | 2.2 |
| 29 | 2.2 | 1.8 |
| 30 | 2.2 | 2.3 |
| 31 | 1.7 | 1.7 |
| 32 | 1.7 | 1.7 |
| 33 | 2.4 | 2.4 |
| 34 | 1.8 | 1.8 |
| 35 | 0.0 | 0.0 |
| 36 | 1.8 | 1.8 |
| 37 | 1.5 | 1.6 |
| 38 | 5.0 | 5.0 |
| 39 | 2.3 | 0.0 |
| 40 | 0.0 | 0.0 |
| 41 | 0.0 | 0.0 |
| 42 | 2.9 | 3.0 |
| 43 | 2.9 | 3.0 |
| 44 | 4.0 | 4.0 |
| 45 | 0.0 | 3.2 |

IC 104 (CXA1700)

| PIN NO. | REC | PLAY |
|---|---|---|
| 46 | 2.0 | 2.0 |
| 47 | 5.0 | 5.0 |
| 48 | 5.0 | 5.0 |
| 49 | 5.0 | 5.0 |
| 50 | 0.0 | 0.0 |
| 51 | 2.3 | 2.4 |
| 52 | 2.4 | 0.0 |
| 53 | 2.7 | 2.7 |
| 54 | 2.5 | 2.5 |
| 55 | 1.9 | 1.9 |
| 56 | 0.0 | 0.0 |
| 57 | 2.1 | 2.1 |
| 58 | 4.2 | 4.2 |
| 59 | 3.2 | 3.4 |
| 60 | 3.3 | 3.3 |
| 61 | 2.3 | 2.3 |
| 62 | 1.8 | 2.0 |
| 63 | 2.0 | 2.0 |
| 64 | 2.0 | 2.0 |

IC 105 (M52358VP)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | 0.0 | 4.7 |
| 2 | 0.0 | 2.0 |
| 3 | 0.0 | 0.0 |
| 4 | 0.0 | 2.1 |
| 5 | 0.0 | 2.3 |
| 6 | 0.0 | 0.0 |
| 7 | 0.0 | 2.2 |
| 8 | 0.0 | 0.0 |
| 9 | 0.0 | 2.0 |
| 10 | 0.0 | 2.0 |
| 11 | 0.0 | 1.5 |
| 12 | 0.0 | 0.0 |
| 13 | 0.0 | 4.1 |
| 14 | 0.0 | 2.2 |
| 15 | 0.0 | 2.1 |
| 16 | 0.0 | 1.8 |
| 17 | 0.0 | 4.5 |
| 18 | 0.0 | 0.0 |
| 19 | 0.0 | 4.7 |
| 20 | 0.0 | 0.0 |
| 21 | 0.0 | 1.5 |
| 22 | 0.0 | 2.5 |
| 23 | 0.0 | 4.7 |
| 24 | 0.0 | 0.0 |

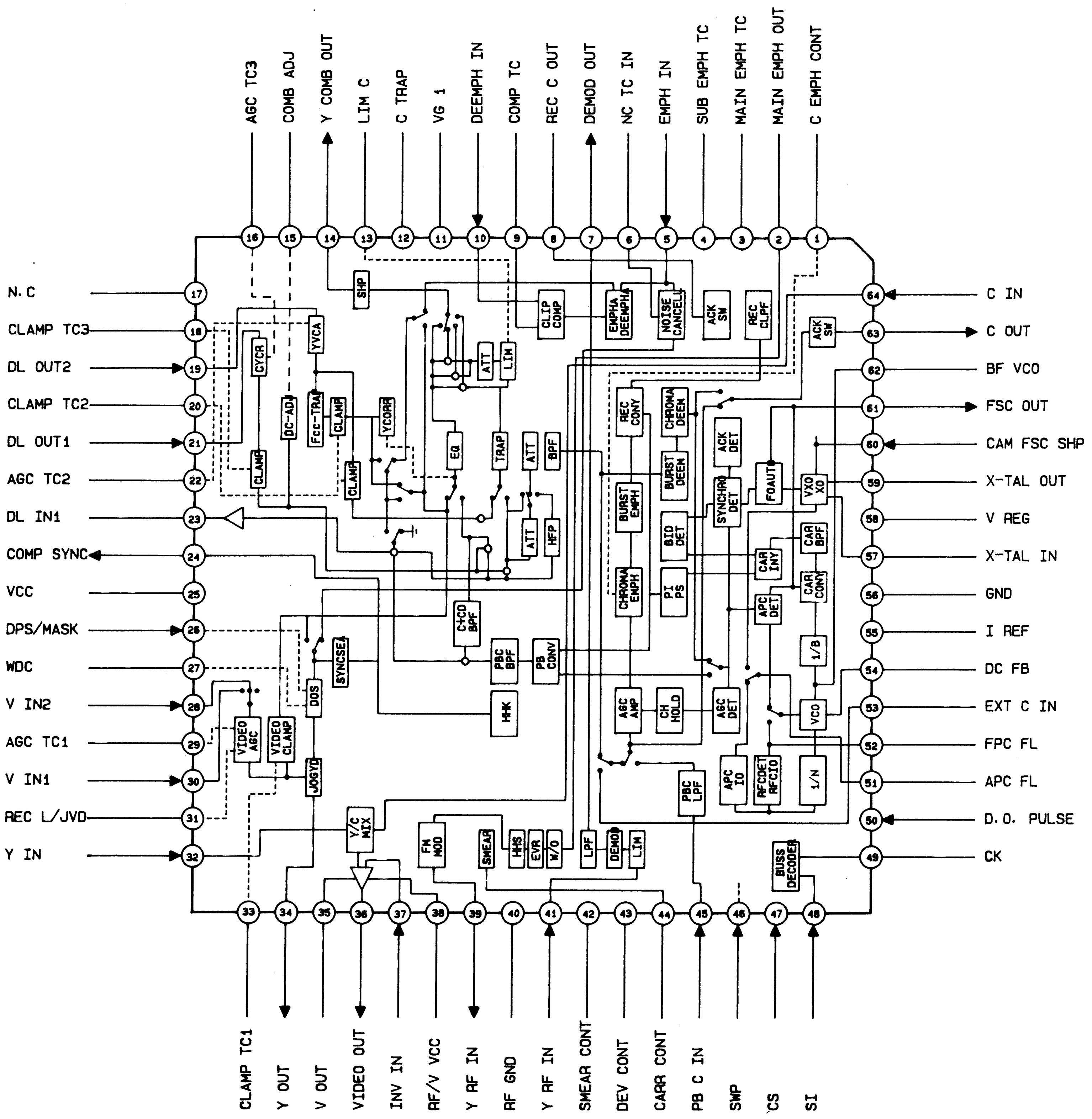
IC 106 (CXA1202R)

| PIN NO. | REC | PLAY |
|---|---|---|
| 1 | 4.7 | 4.7 |
| 2 | 3.4 | 0.0 |
| 3 | 4.4 | 4.4 |
| 4 | 3.4 | 0.0 |
| 5 | 2.7 | 2.7 |
| 6 | 3.4 | 0.0 |
| 7 | 4.7 | 4.7 |
| 8 | 2.3 | 1.9 |
| 9 | 4.7 | 4.5 |
| 10 | 4.0 | 2.6 |
| 11 | 3.1 | 0.0 |
| 12 | 0.0 | 2.7 |
| 13 | 2.8 | 0.0 |
| 14 | 2.0 | 2.8 |
| 15 | 1.4 | 2.8 |
| 16 | 4.7 | 2.6 |
| 17 | 4.7 | 4.7 |
| 18 | 0.0 | 2.7 |
| 19 | 2.3 | 0.0 |
| 20 | 0.0 | 2.0 |
| 21 | 0.0 | 0.0 |
| 22 | 3.3 | 0.0 |
| 23 | 2.7 | 3.4 |
| 24 | 2.0 | 2.8 |
| 25 | 0.0 | 2.1 |
| 26 | 4.7 | 2.8 |
| 27 | 4.7 | 4.7 |
| 28 | 2.7 | 4.7 |
| 29 | 4.4 | 2.4 |
| 30 | 4.4 | 2.5 |
| 31 | 2.7 | 2.5 |
| 32 | 4.7 | 2.5 |
| 33 | 4.7 | 4.7 |
| 34 | 4.7 | 4.7 |
| 35 | 0.0 | 2.8 |
| 36 | 2.0 | 2.2 |
| 37 | 2.7 | 2.8 |
| 38 | 3.5 | 3.5 |
| 39 | 2.6 | 2.6 |
| 40 | 0.0 | 0.0 |
| 41 | 0.0 | 0.0 |
| 42 | 3.6 | 3.7 |
| 43 | 0.0 | 0.0 |
| 44 | 4.7 | 4.7 |
| 45 | 0.0 | 4.0 |

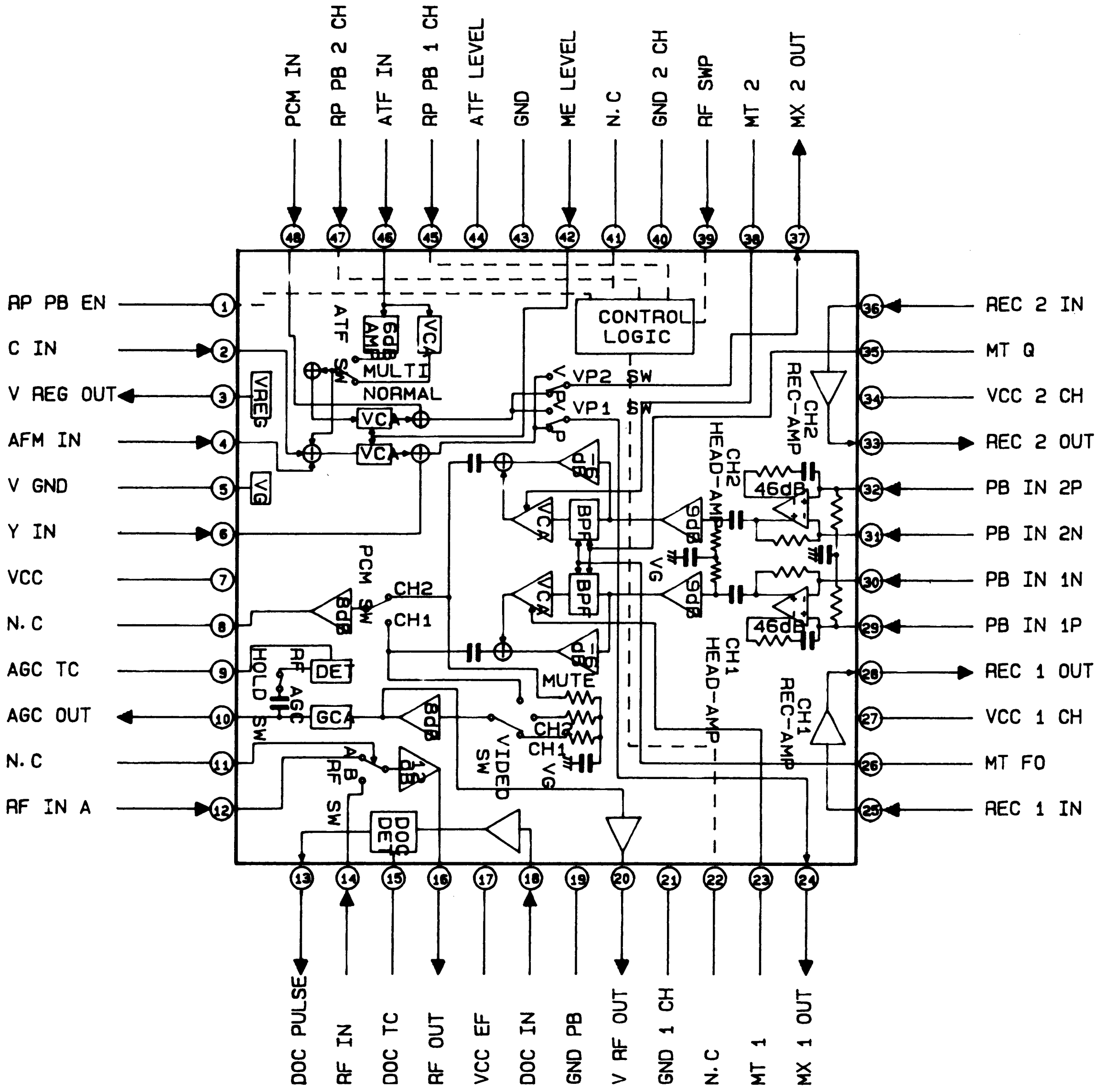
IC 106 (CXA1202R)

| PIN NO. | REC | PLAY |
|---|---|---|
| 46 | 2.0 | 2.7 |
| 47 | 0.0 | 3.9 |
| 48 | 3.1 | 2.7 |

## IC104 CXA1700

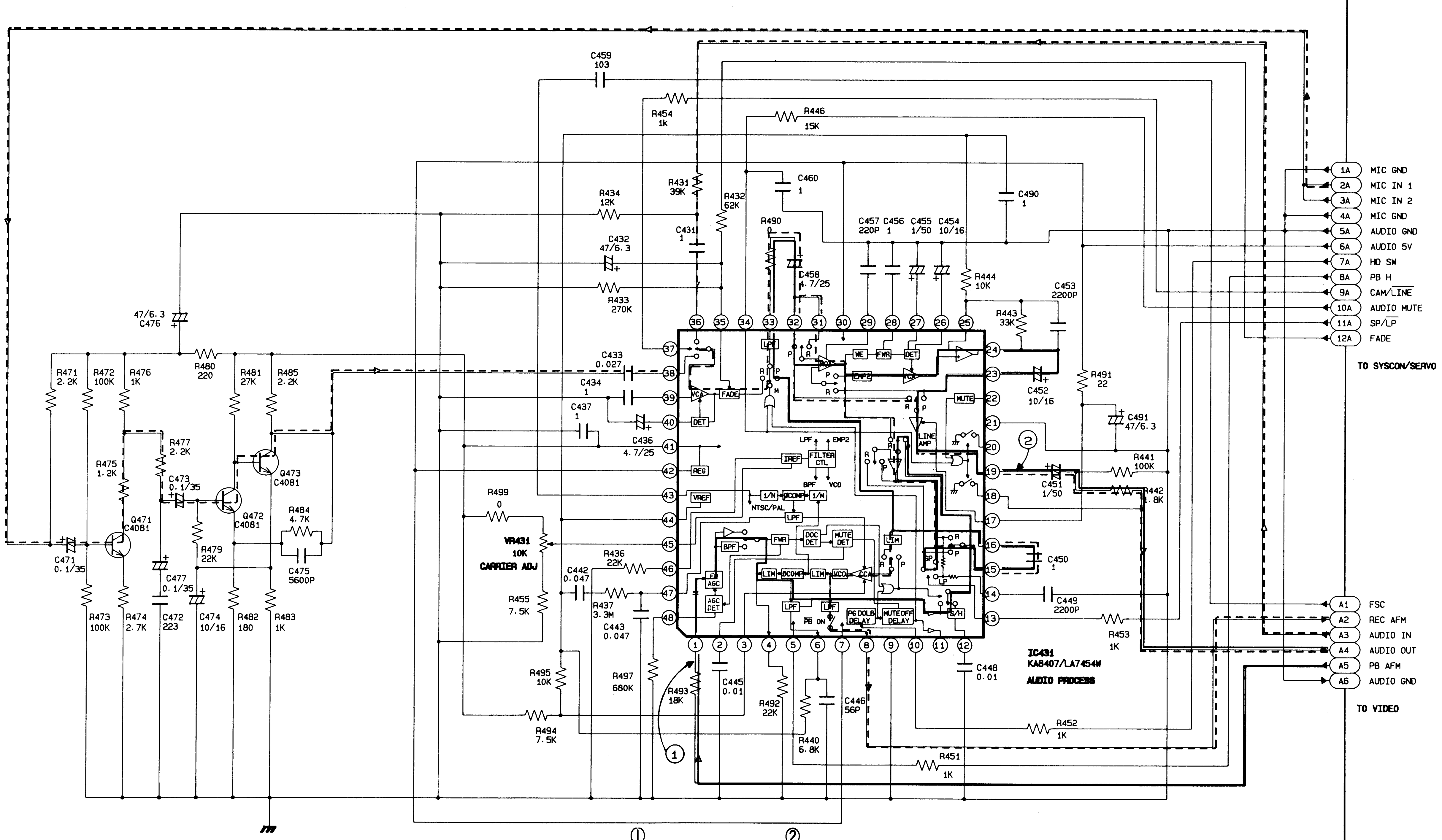

AGC TC3
COMB ADJ
Y COMB OUT
LIM C
C TRAP
VG 1
DEEMPH IN
COMP TC
REC C OUT
DEMOD OUT
NC TC IN
EMPH IN
SUB EMPH TC
MAIN EMPH TC
MAIN EMPH OUT
C EMPH CONT
N.C
CLAMP TC3
DL OUT2
CLAMP TC2
DL OUT1
AGC TC2
DL IN1
COMP SYNC
VCC
DPS/MASK
WDC
V IN2
AGC TC1
V IN1
REC L/JVD
Y IN
C IN
C OUT
BF VCO
FSC OUT
CAM FSC SHP
X-TAL OUT
V REG
X-TAL IN
GND
I REF
DC FB
EXT C IN
FPC FL
APC FL
D.O. PULSE
CK
CLAMP TC1
Y OUT
V OUT
VIDEO OUT
INV IN
RF/V VCC
Y RF IN
RF GND
Y RF IN
SMEAR CONT
DEV CONT
CARR CONT
PB C IN
SWP
CS
SI

## IC106 CXA1202R


PCM IN
RP PB 2 CH
ATF IN
RP PB 1 CH
ATF LEVEL
GND
ME LEVEL
N.C
GND 2 CH
RF SWP
MT 2
MX 2 OUT
RP PB EN
C IN
V REG OUT
AFM IN
V GND
Y IN
VCC
N.C
AGC TC
AGC OUT
N.C
RF IN A
REC 2 IN
MT Q
VCC 2 CH
REC 2 OUT
PB IN 2P
PB IN 2N
PB IN 1N
PB IN 1P
REC 1 OUT
VCC 1 CH
MT FO
REC 1 IN
DOC PULSE
RF IN
DOC TC
RF OUT
VCC EF
DOC IN
GND PB
V RF OUT
GND 1 CH
N.C
MT 1
MX 1 OUT
CONTROL LOGIC
VP2 SW
VP1 SW
MULTI
NORMAL
CH2 REC-AMP
CH2 HEAD-AMP
CH1 HEAD-AMP
CH1 REC-AMP
46dB
PCM SW
VIDEO SW
RF SW
MUTE

## 13-5. AUDIO

——— PB PROCESS
- - - - REC PROCESS


C459
103
R454
1k
R446
15K
R431
39K
R432
62K
C460
1
C490
1
R434
12K
C432
47/6.3
R433
270K
C431
1
R490
C458
4.7/25
C457
220P
C456
1
C455
1/50
C454
10/16
R444
10K
C453
2200P
R443
33K
C476
47/6.3
R480
220
R471
2.2K
R472
100K
R476
1K
R481
27K
R485
2.2K
C433
0.027
C434
1
C437
1
C436
4.7/25
R477
2.2K
R475
1.2K
C473
0.1/35
Q473
C4081
Q472
C4081
Q471
C4081
R484
4.7K
C475
5600P
C471
0.1/35
R479
22K
C477
0.1/35
R473
100K
R474
2.7K
C472
223
C474
10/16
R482
180
R483
1K
R499
0
VR431
10K
CARRIER ADJ
R455
7.5K
R436
22K
C442
0.047
R437
3.3M
C443
0.047
R495
10K
R494
7.5K
R497
680K
R493
18K
C445
0.01
R492
22K
R440
6.8K
C446
56P
R452
1K
R451
1K
C448
0.01
R453
1K
C449
2200P
C450
1
R441
100K
C451
1/50
R442
1.8K
C452
10/16
R491
22
C491
47/6.3
VCA
FADE
DET
REG
IREF
FILTER CTL
VREF
1/N
ΦCOMP
NTSC/PAL
BPF
VCO
LPF
EMP2
DOC DET
MUTE DET
FM AGC
AGC DET
FWR
LIM
VCO
CCA
PB DOLBY DELAY
MUTE OFF DELAY
PB ON
S/H
SP
LP
LINE AMP
MUTE
WE
EMP2
R
P
M
①
②
1A MIC GND
2A MIC IN 1
3A MIC IN 2
4A MIC GND
5A AUDIO GND
6A AUDIO 5V
7A HD SW
8A PB H
9A CAM/LINE
10A AUDIO MUTE
11A SP/LP
12A FADE
TO SYSCON/SERVO
A1 FSC
A2 REC AFM
A3 AUDIO IN
A4 AUDIO OUT
A5 PB AFM
A6 AUDIO GND
TO VIDEO
IC431
KA8407/LA7454W
AUDIO PROCESS

| IC 431 (LA7454W) | | |
|---|---|---|
| PIN NO. | REC | PLAY |
| 1 | 1.0 | 2.5 |
| 2 | 0.0 | 0.8 |
| 3 | 3.3 | 3.3 |
| 4 | 2.5 | 1.5 |
| 5 | 0.0 | 4.5 |
| 6 | 2.1 | 5.0 |
| 7 | 5.0 | 5.0 |
| 8 | 1.9 | 1.3 |
| 9 | 0.0 | 0.0 |
| 10 | 2.4 | 2.4 |
| 11 | 0.0 | 0.0 |
| 12 | 0.0 | 2.2 |
| 13 | 4.7 | 4.7 |
| 14 | 2.1 | 2.1 |
| 15 | 2.1 | 2.1 |
| 16 | 2.1 | 2.1 |
| 17 | 4.9 | 4.9 |
| 18 | 0.0 | 0.0 |
| 19 | 2.4 | 2.4 |
| 20 | 0.0 | 0.0 |
| 21 | 0.0 | 0.0 |
| 22 | 5.0 | 5.0 |
| 23 | 2.1 | 2.1 |
| 24 | 2.1 | 2.1 |
| 25 | 2.1 | 2.1 |
| 26 | 2.1 | 2.1 |
| 27 | 2.7 | 2.7 |
| 28 | 2.0 | 2.0 |
| 29 | 2.8 | 2.8 |
| 30 | 5.0 | 5.0 |
| 31 | 2.1 | 2.1 |
| 32 | 2.1 | 2.1 |
| 33 | 2.1 | 2.1 |
| 34 | 0.7 | 0.7 |
| 35 | 0.0 | 0.0 |
| 36 | 2.1 | 2.1 |
| 37 | 4.0 | 0.0 |
| 38 | 2.1 | 2.1 |
| 39 | 2.1 | 2.1 |
| 40 | 1.7 | 2.6 |
| 41 | 4.2 | 4.2 |
| 42 | 4.9 | 4.9 |
| 43 | 3.9 | 3.9 |
| 44 | 2.1 | 2.1 |
| 45 | 4.2 | 4.2 |
| 46 | 2.5 | 2.5 |
| 47 | 0.0 | 0.0 |
| 48 | 0.0 | 0.0 |

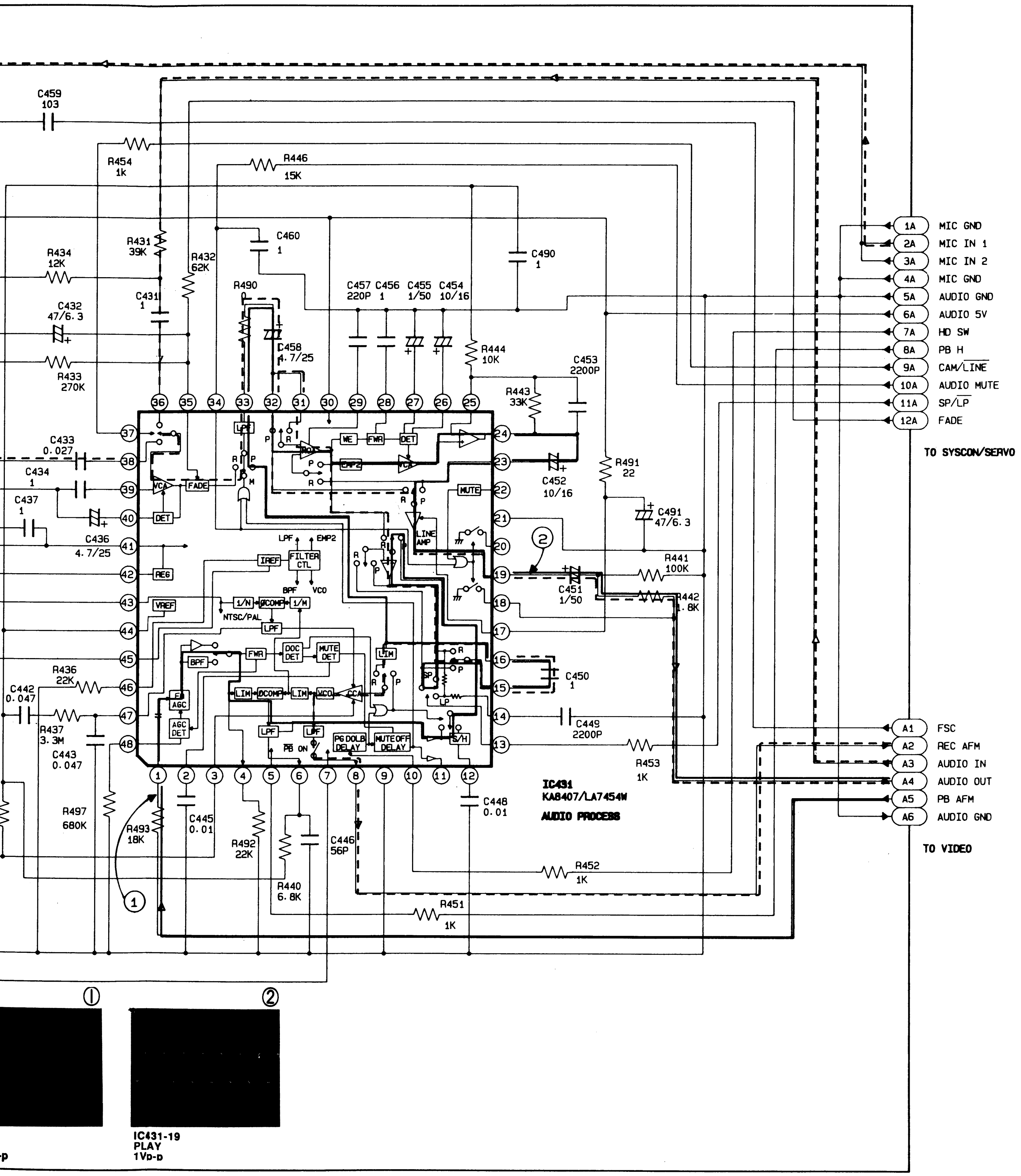
SELECT M
MIC IN
VCA BIAS
ALC DET
REG
VCC
FSC IN
V REF
IO ADJ
I REF
PLL LPF
AGC LPF

①

IC431-1
PLAY
300mVp-p

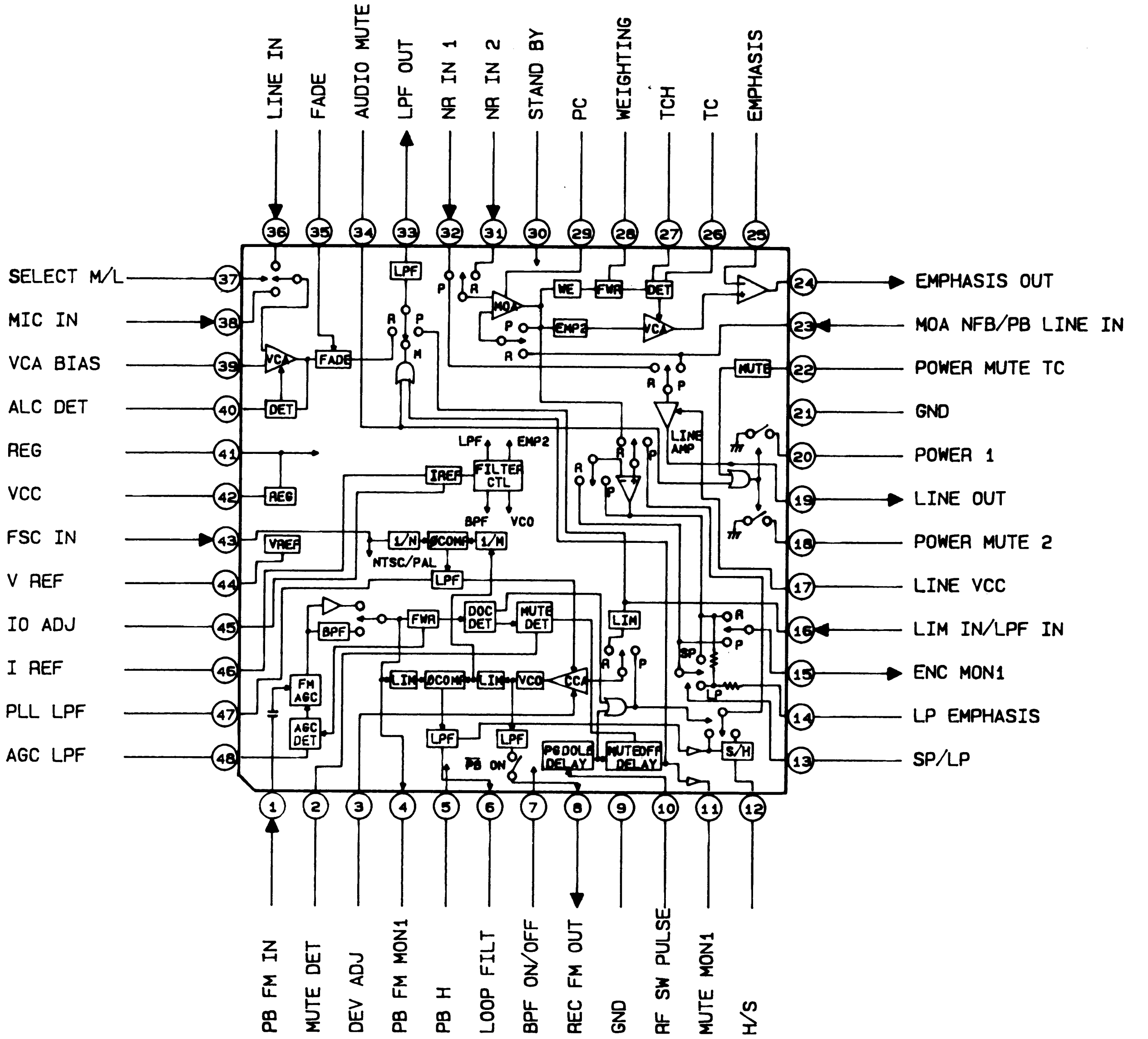
②

IC431-19
PLAY
1Vp-p


C459
103
R454
1k
R446
15K
R431
39K
R432
62K
C460
1
C490
1
R434
12K
C431
1
R490
C432
47/6.3
C457
220P
C456
1
C455
1/50
C454
10/16
C458
4.7/25
R444
10K
R433
270K
C453
2200P
R443
33K
C433
0.027
C434
1
C437
1
C436
4.7/25
R491
22
C452
10/16
C491
47/6.3
R441
100K
C451
1/50
R442
1.8K
C450
1
R436
22K
C442
0.047
R437
3.3M
C443
0.047
C449
2200P
R453
1K
R497
680K
R493
18K
C445
0.01
R492
22K
C446
56P
R440
6.8K
C448
0.01
R452
1K
R451
1K
IC431
KA8407/LA7454W
AUDIO PROCESS
1A MIC GND
2A MIC IN 1
3A MIC IN 2
4A MIC GND
5A AUDIO GND
6A AUDIO 5V
7A HD SW
8A PB H
9A CAM/LINE
10A AUDIO MUTE
11A SP/LP
12A FADE
TO SYSCON/SERVO
A1 FSC
A2 REC AFM
A3 AUDIO IN
A4 AUDIO OUT
A5 PB AFM
A6 AUDIO GND
TO VIDEO
①
②
IC431-19
PLAY
1Vp-p

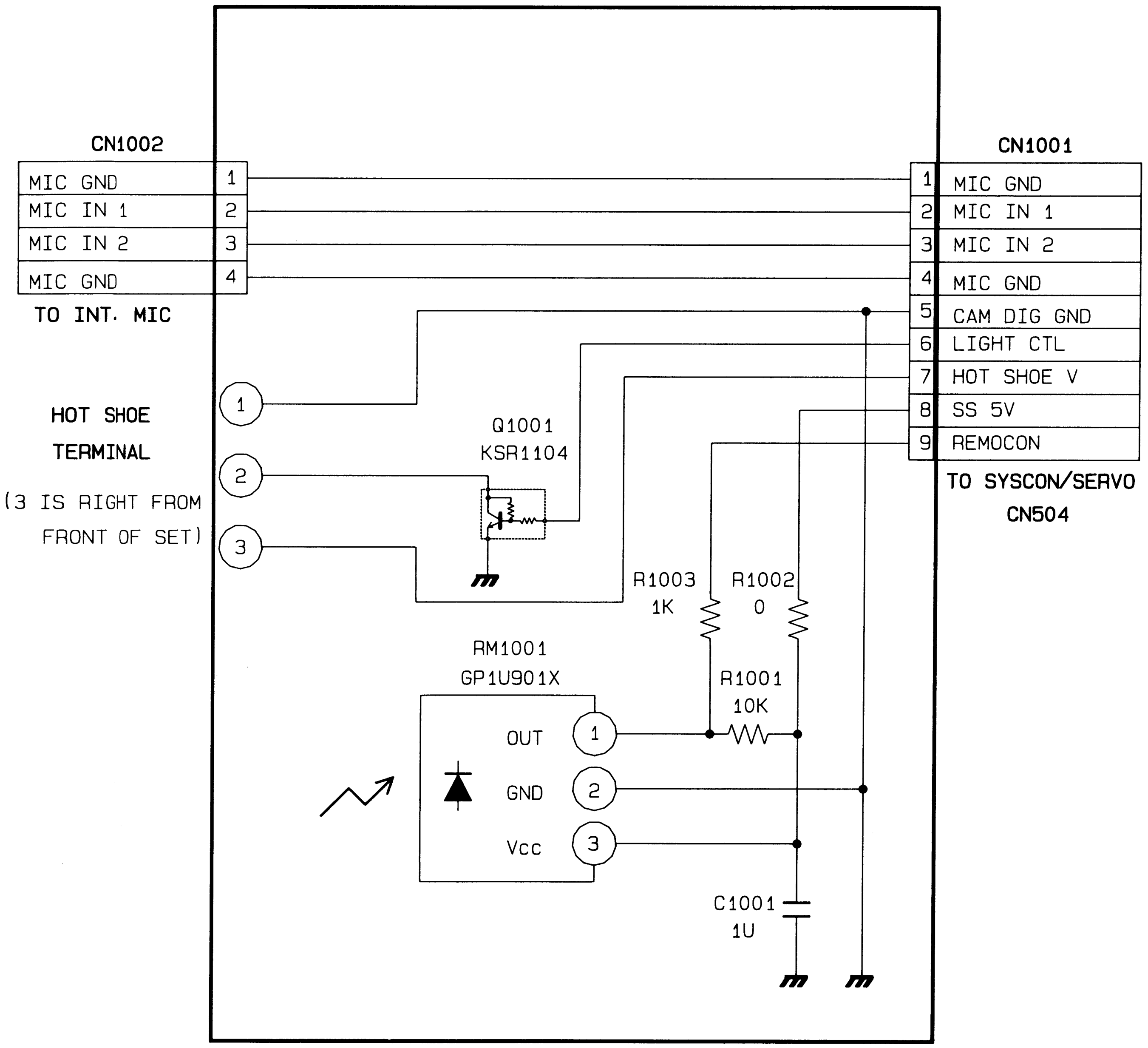
| IC 431 | (LA7454W) | |
|---|---|---|
| PIN NO. | REC | PLAY |
| 1 | 1.0 | 2.5 |
| 2 | 0.0 | 0.8 |
| 3 | 3.3 | 3.3 |
| 4 | 2.5 | 1.5 |
| 5 | 0.0 | 4.5 |
| 6 | 2.1 | 5.0 |
| 7 | 5.0 | 5.0 |
| 8 | 1.9 | 1.3 |
| 9 | 0.0 | 0.0 |
| 10 | 2.4 | 2.4 |
| 11 | 0.0 | 0.0 |
| 12 | 0.0 | 2.2 |
| 13 | 4.7 | 4.7 |
| 14 | 2.1 | 2.1 |
| 15 | 2.1 | 2.1 |
| 16 | 2.1 | 2.1 |
| 17 | 4.9 | 4.9 |
| 18 | 0.0 | 0.0 |
| 19 | 2.4 | 2.4 |
| 20 | 0.0 | 0.0 |
| 21 | 0.0 | 0.0 |
| 22 | 5.0 | 5.0 |
| 23 | 2.1 | 2.1 |
| 24 | 2.1 | 2.1 |
| 25 | 2.1 | 2.1 |
| 26 | 2.1 | 2.1 |
| 27 | 2.7 | 2.7 |
| 28 | 2.0 | 2.0 |
| 29 | 2.8 | 2.8 |
| 30 | 5.0 | 5.0 |
| 31 | 2.1 | 2.1 |
| 32 | 2.1 | 2.1 |
| 33 | 2.1 | 2.1 |
| 34 | 0.7 | 0.7 |
| 35 | 0.0 | 0.0 |
| 36 | 2.1 | 2.1 |
| 37 | 4.0 | 0.0 |
| 38 | 2.1 | 2.1 |
| 39 | 2.1 | 2.1 |
| 40 | 1.7 | 2.6 |
| 41 | 4.2 | 4.2 |
| 42 | 4.9 | 4.9 |
| 43 | 3.9 | 3.9 |
| 44 | 2.1 | 2.1 |
| 45 | 4.2 | 4.2 |
| 46 | 2.5 | 2.5 |
| 47 | 0.0 | 0.0 |
| 48 | 0.0 | 0.0 |

**IC431 KA8407 / LA7454AW**


LINE IN
FADE
AUDIO MUTE
LPF OUT
NR IN 1
NR IN 2
STAND BY
PC
WEIGHTING
TCH
TC
EMPHASIS
SELECT M/L
MIC IN
VCA BIAS
ALC DET
REG
VCC
FSC IN
V REF
IO ADJ
I REF
PLL LPF
AGC LPF
EMPHASIS OUT
MOA NFB/PB LINE IN
POWER MUTE TC
GND
POWER 1
LINE OUT
POWER MUTE 2
LINE VCC
LIM IN/LPF IN
ENC MON1
LP EMPHASIS
SP/LP
PB FM IN
MUTE DET
DEV ADJ
PB FM MON1
PB H
LOOP FILT
BPF ON/OFF
REC FM OUT
GND
RF SW PULSE
MUTE MON1
H/S
VCA
FADE
DET
REG
VREF
LPF
MOA
WE
FWR
DET
EMP2
LINE AMP
MUTE
IREF
FILTER CTL
1/N
DCOMP
NTSC/PAL
BPF
DOC DET
MUTE DET
LIM
VCO
CCA
FM AGC
AGC DET
PB DOLB DELAY
MUTEOFF DELAY
S/H
SP
LP

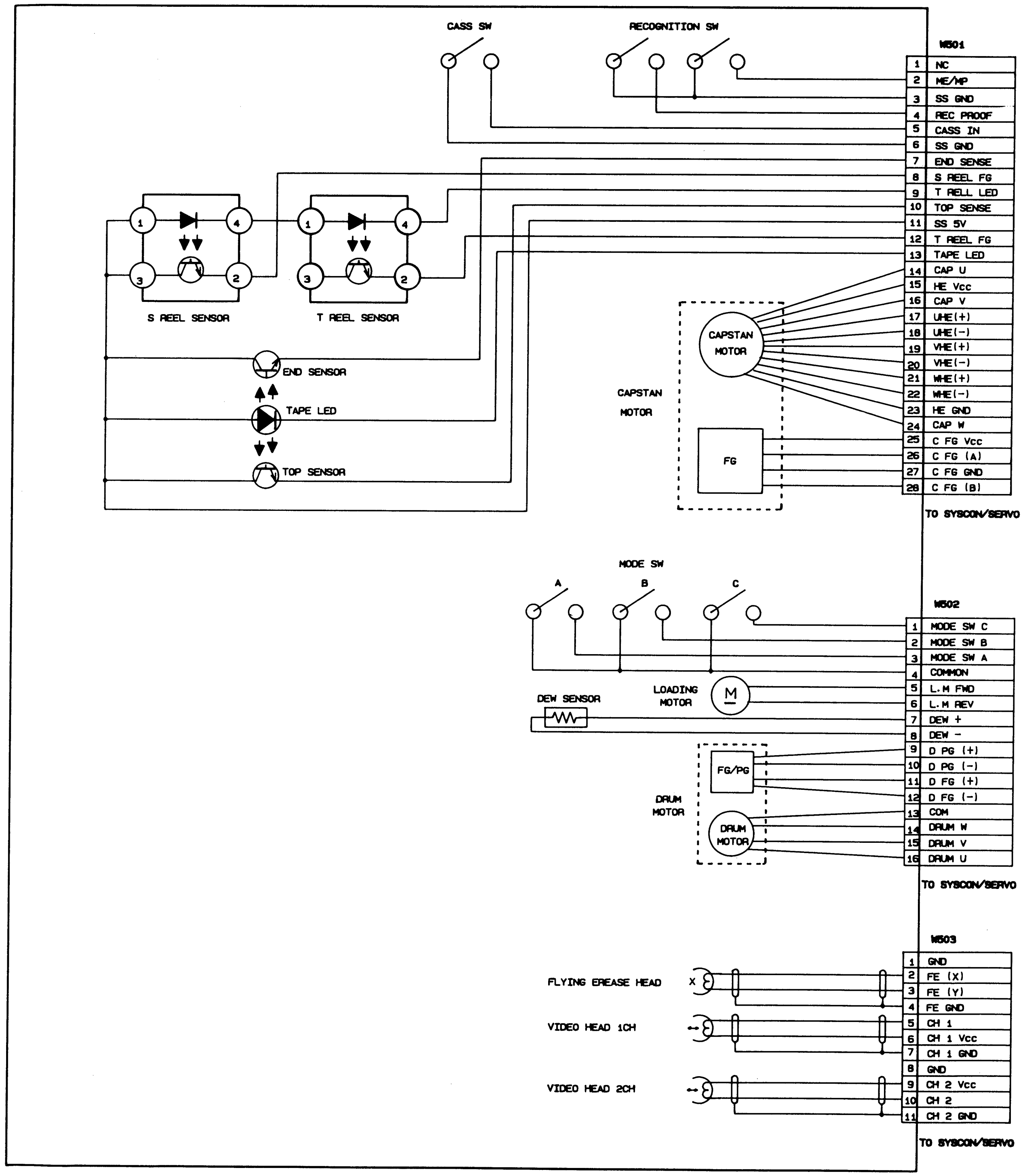
**HOT SHOE**

## 13-6. HOT SHOE


CN1002
MIC GND 1
MIC IN 1 2
MIC IN 2 3
MIC GND 4
TO INT. MIC
HOT SHOE
TERMINAL
(3 IS RIGHT FROM
FRONT OF SET)
1
2
3
Q1001
KSR1104
R1003
1K
R1002
0
RM1001
GP1U901X
OUT 1
GND 2
Vcc 3
R1001
10K
C1001
1U
CN1001
1 MIC GND
2 MIC IN 1
3 MIC IN 2
4 MIC GND
5 CAM DIG GND
6 LIGHT CTL
7 HOT SHOE V
8 SS 5V
9 REMOCON
TO SYSCON/SERVO
CN504

**DECK FPC**

## 13-7. DECK FPC


CASS SW
RECOGNITION SW
W501
1 NC
2 ME/MP
3 SS GND
4 REC PROOF
5 CASS IN
6 SS GND
7 END SENSE
8 S REEL FG
9 T RELL LED
10 TOP SENSE
11 SS 5V
12 T REEL FG
13 TAPE LED
14 CAP U
15 HE Vcc
16 CAP V
17 UHE(+)
18 UHE(−)
19 VHE(+)
20 VHE(−)
21 WHE(+)
22 WHE(−)
23 HE GND
24 CAP W
25 C FG Vcc
26 C FG (A)
27 C FG GND
28 C FG (B)
TO SYSCON/SERVO
S REEL SENSOR
T REEL SENSOR
END SENSOR
TAPE LED
TOP SENSOR
CAPSTAN MOTOR
CAPSTAN
MOTOR
FG
MODE SW
A
B
C
W502
1 MODE SW C
2 MODE SW B
3 MODE SW A
4 COMMON
5 L.M FWD
6 L.M REV
7 DEW +
8 DEW −
9 D PG (+)
10 D PG (−)
11 D FG (+)
12 D FG (−)
13 COM
14 DRUM W
15 DRUM V
16 DRUM U
TO SYSCON/SERVO
DEW SENSOR
LOADING
MOTOR
M
FG/PG
DRUM
MOTOR
DRUM
MOTOR
W503
1 GND
2 FE (X)
3 FE (Y)
4 FE GND
5 CH 1
6 CH 1 Vcc
7 CH 1 GND
8 GND
9 CH 2 Vcc
10 CH 2
11 CH 2 GND
TO SYSCON/SERVO
FLYING EREASE HEAD
X
VIDEO HEAD 1CH
VIDEO HEAD 2CH

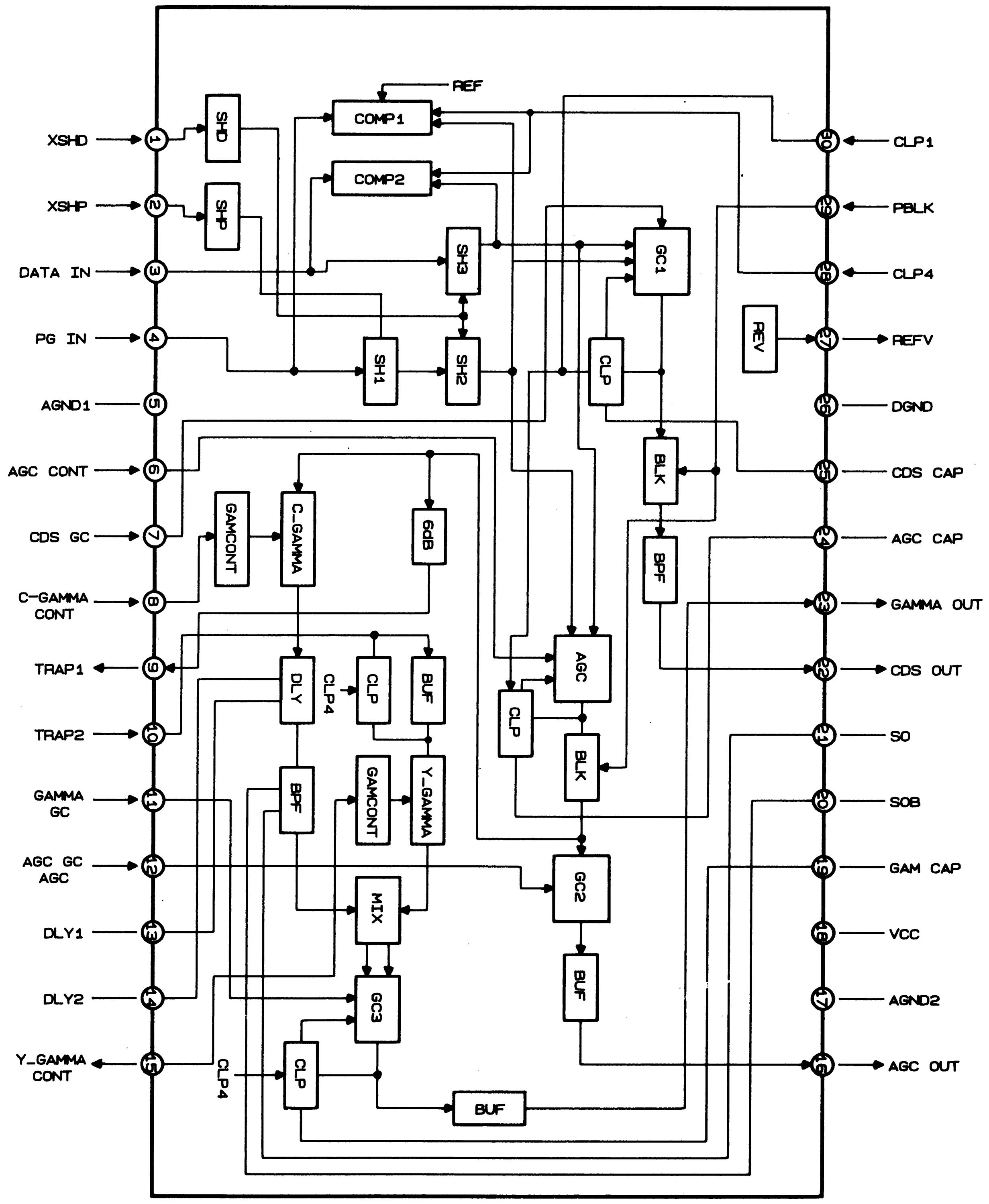
## 13-8. CCD

The schematic diagram of "CCD" is on page 13-19.

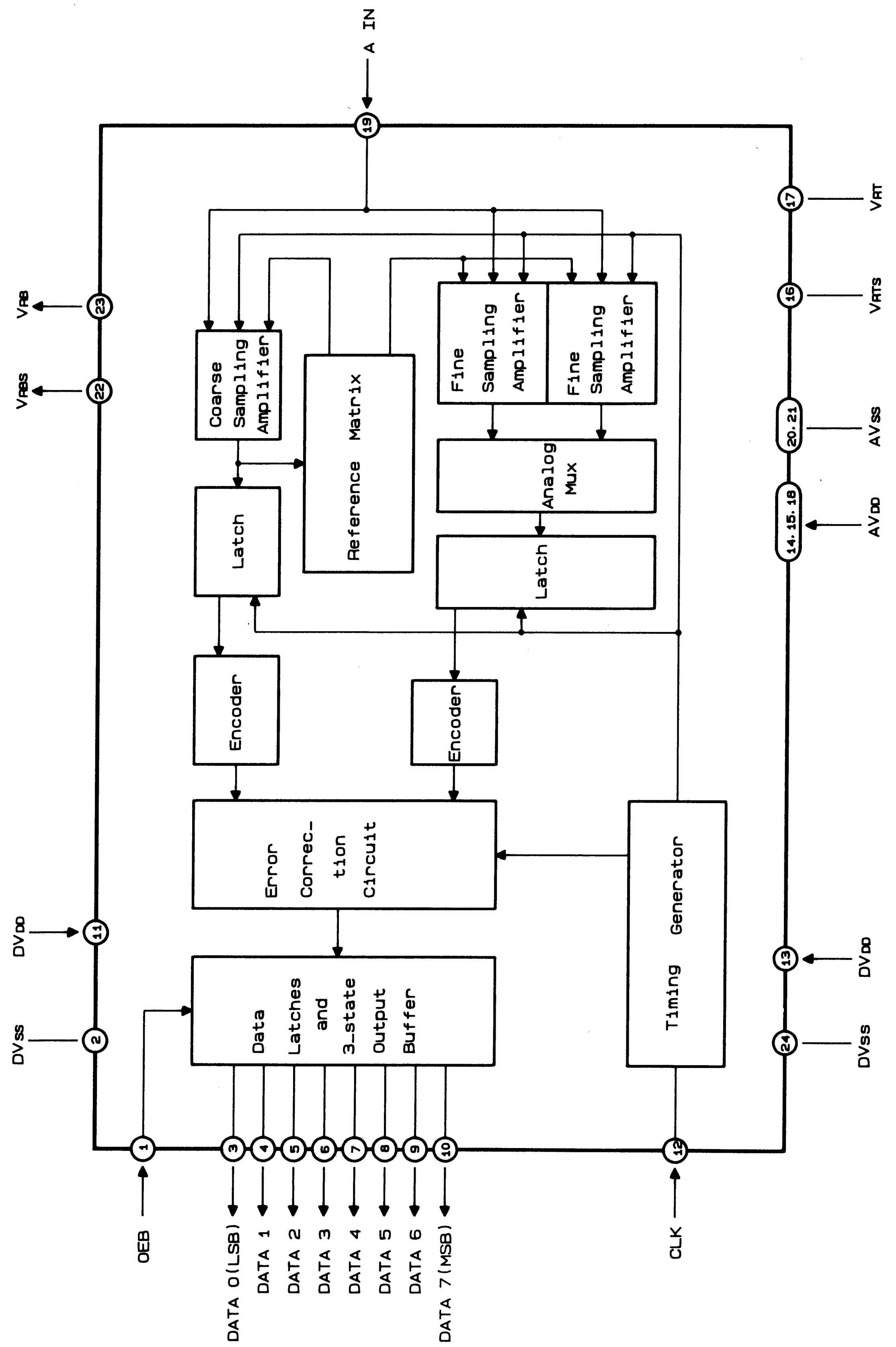
| PIN NO | VOLTAGE(DC) |
|---|---|
| ICD01 | ICX055AK |
| 1 | **-6.4** |
| 2 | **-6.4** |
| 3 | **-0.2** |
| 4 | **-0.2** |
| 5 | **0.0** |
| 6 | **4.2** |
| 7 | **3.3** |
| 8 | **7.0** |
| 9 | **15.0** |
| 10 | **0.0** |
| 11 | **8.8** |
| 12• | **-6.8** |
| 13 | **5.3** |
| 14 | **0.0** |
| 15 | **2.5** |
| 16 | **2.0** |
| ICD02 | KS7220 |
| 1 | 0.0 |
| 2 | 4.1 |
| 3 | 0.2 |
| 4 | 0.2 |
| 5 | 4.5 |
| 6 | 4.3 |
| 7 | 4.5 |
| 8 | 4.3 |
| 9 | 4.9 |
| 10 | 0.0 |
| 11 | 0.0 |
| 12 | 15.0 |
| 13 | -6.4 |
| 14 | -6.4 |
| 15 | 0.0 |
| 16 | -0.2 |
| 17 | -0.2 |
| 18 | -6.8 |
| 19 | -6.8 |
| 20 | 15.0 |
| ICD03 | KA7302 |
| 1 | 3.7 |
| 2 | 3.7 |
| 3 | 2.9 |
| 4 | 2.8 |
| 5 | 0.0 |
| 6 | 1.8 |
| 7 | 3.8 |
| 8 | 0.0 |
| 9 | 2.2 |
| 10 | 2.5 |
| 11 | 3.8 |
| 12 | 5.0 |
| 13 | 2.2 |
| 14 | 2.2 |
| 15 | 0.0 |
| 16 | 4.9 |
| 17 | 0.0 |
| 18 | 4.9 |
| 19 | 2.2 |
| 20 | 2.1 |
| 21 | 2.0 |
| 22 | 2.0 |
| 23 | 2.2 |
| 24 | 2.2 |
| 25 | 2.1 |
| 26 | 0.0 |
| 27 | 1.6 |
| 28 | 0.2 |
| 29 | 3.8 |
| 30 | 0.2 |
| ICD04 | KAD0228 |
| 1 | 0.0 |
| 2 | 0.0 |
| 3 | 2.2 |
| 4 | 2.3 |
| 5 | 2.3 |
| 6 | 1.9 |
| 7 | 2.1 |
| 8 | 1.6 |
| 9 | 2.6 |
| 10 | 0.7 |
| 11 | 5.0 |
| 12 | 1.1 |
| 13 | 5.0 |
| 14 | 5.0 |
| 15 | 5.0 |
| 16 | 2.6 |
| 17 | 2.6 |
| 18 | 5.0 |
| 19 | 1.2 |
| 20 | 0.0 |
| 21 | 0.0 |
| 22 | 0.6 |
| 23 | 0.6 |
| 24 | 0.0 |
| ICD05 | TB6504 |
| 1 | 0.0 |
| 2 | 4.9 |
| 3 | 4.8 |
| 4 | 0.0 |
| 5 | 4.7 |
| 6 | 0.8 |
| 7 | 4.9 |
| 8 | 4.8 |
| 9 | 0.2 |
| 10 | 0.0 |
| 11 | 0.2 |
| 12 | 2.3 |
| 13 | 2.3 |
| 14 | 0.2 |
| 15 | 0.0 |
| 16 | 0.2 |
| 17 | 4.8 |
| 18 | 0.0 |
| 19 | 0.0 |
| 20 | 4.9 |
| 21 | 0.0 |
| 22 | 2.0 |
| 23 | 4.9 |
| 24 | 4.8 |
| ICD06 | NJM3414 |
| 1 | 3.0 |
| 2 | 3.0 |
| 3 | 3.0 |
| 4 | 0.0 |
| 5 | 2.1 |
| 6 | 2.1 |
| 7 | 2.0 |
| 8 | 4.9 |
| ICD07 | NJM2902 |
| 1 | 0.0 |
| 2 | 2.1 |
| 3 | 2.1 |
| 4 | 4.8 |
| 5 | 5.0 |
| 6 | 2.3 |
| 7 | 2.3 |
| 8 | 2.0 |
| 9 | 2.1 |
| 10 | 2.1 |
| 11 | 0.0 |
| 12 | 2.1 |
| 13 | 2.1 |
| 14 | 2.1 |

| PINO | VOLTAGE(DC) |
|---|---|
| QD01 | 2SK300 |
| B | 7.3 |
| E | 14.8 |
| C | 8.2 |
| QD02 | IMZ1 |
| 1 | 4.9 |
| 2 | 4.4 |
| 3 | 4.9 |
| 4 | 0.0 |
| 5 | 4.9 |
| 6 | 5.4 |
| QD03 | DTC143TU |
| B | 3.2 |
| E | 0.2 |
| C | 0.1 |
| QD04 | 2SC2812 |
| B | 2.2 |
| E | 1.5 |
| C | 5.0 |
| QD05 | 2SA1179 |
| B | 1.8 |
| E | 2.5 |
| C | 0.0 |
| QD06 | IMX1 |
| 1 | 0.0 |
| 2 | 0.1 |
| 3 | 1.8 |
| 4 | 1.2 |
| 5 | 2.4 |
| 6 | 1.8 |
| QD07 | IMZ1 |
| 1 | 5.0 |
| 2 | 0.6 |
| 3 | 1.2 |
| 4 | 0.0 |
| 5 | 1.8 |
| 6 | 1.2 |
| QD08 | IMT1 |
| 1 | 0.0 |
| 2 | 2.2 |
| 3 | 2.6 |
| 4 | 0.0 |
| 5 | 2.2 |
| 6 | 2.8 |
| QD09 | 2SC2812 |
| B | 10.1 |
| E | 9.6 |
| C | 20.3 |
| QD10 | IMX1 |
| 1 | 15.0 |
| 2 | 1.3 |
| 3 | 0.8 |
| 4 | 10.1 |
| 5 | 1.3 |
| 6 | 0.8 |
| QD11 | DTC144EU |
| B | 0.0 |
| E | 0.0 |
| C | 2.3 |
| QD12 | IMX1 |
| 1 | 4.9 |
| 2 | 2.6 |
| 3 | 2.1 |
| 4 | 4.9 |
| 5 | 2.1 |
| 6 | 1.6 |
| QD13 | 2SA1179 |
| B | 1.6 |
| E | 2.1 |
| C | 0.0 |
| QD14 | IMZ1 |
| 1 | 4.9 |
| 2 | 2.1 |
| 3 | 2.6 |
| 4 | 0.0 |
| 5 | 2.6 |
| 6 | 2.1 |
| QD15 | DTC144WK |
| B | 0.0 |
| E | 0.0 |
| C | 4.9 |
| QD16 | DTC144WK |
| B | 4.8 |
| E | 0.0 |
| C | 0.0 |

## ICD03 KA7302


REF
COMP1
COMP2
SHD
SHP
SH3
SH1
SH2
GC1
CLP
REV
BLK
BPF
GAMCONT
C_GAMMA
6dB
DLY
CLP4
CLP
BUF
AGC
CLP
BLK
BPF
GAMCONT
Y_GAMMA
GC2
MIX
GC3
BUF
CLP4
CLP
BUF
XSHD 1
XSHP 2
DATA IN 3
PG IN 4
AGND1 5
AGC CONT 6
CDS GC 7
C-GAMMA CONT 8
TRAP1 9
TRAP2 10
GAMMA GC 11
AGC GC AGC 12
DLY1 13
DLY2 14
Y_GAMMA CONT 15
30 CLP1
29 PBLK
28 CLP4
27 REFV
26 DGND
25 CDS CAP
24 AGC CAP
23 GAMMA OUT
22 CDS OUT
21 SO
20 SOB
19 GAM CAP
18 VCC
17 AGND2
16 AGC OUT

## ICD04 KAD0228


A IN 19
VRB 23
VRBS 22
VRT 17
VRTS 16
AVSS 20.21
AVDD 14.15.18
DVDD 11
DVSS 2
DVDD 13
DVSS 24
Coarse Sampling Amplifier
Reference Matrix
Fine Sampling Amplifier
Fine Sampling Amplifier
Analog Mux
Latch
Latch
Encoder
Encoder
Error Correc_tion Circuit
Timing Generator
Data Latches and 3_state Output Buffer
OEB 1
DATA 0(LSB) 3
DATA 1 4
DATA 2 5
DATA 3 6
DATA 4 7
DATA 5 8
DATA 6 9
DATA 7(MSB) 10
CLK 12

## 13-9. PROCESS

The schematic diagram of "PROCESS" is on page 13-20.

| PIN NO | VOLTAGE(DC) |
|---|---|
| ICP02 | KDA0408 |
| 1 | 0.0 |
| 2 | 0.0 |
| 3 | 3.8 |
| 4 | 0.0 |
| 5 | 4.4 |
| 6 | 0.0 |
| 7 | 4.0 |
| 8 | 0.0 |
| 9 | 3.8 |
| 10 | 4.9 |
| 11 | 4.9 |
| 12 | 0.0 |
| 13 | 0.0 |
| 14 | 0.0 |
| 15 | 0.0 |
| 16 | 0.0 |
| 17 | 0.0 |
| 18 | 0.0 |
| 19 | 0.0 |
| 20 | 0.0 |
| 21 | 0.0 |
| 22 | 0.1 |
| 23 | 0.7 |
| 24 | 0.0 |
| 25 | 0.7 |
| 26 | 2.2 |
| 27 | 1.7 |
| 28 | 1.9 |
| 29 | 1.8 |
| 30 | 1.7 |
| 31 | 2.9 |
| 32 | 1.8 |
| 33 | 1.8 |
| 34 | 1.8 |
| 35 | 1.9 |
| 36 | 1.9 |
| 37 | 0.0 |
| 38 | 2.1 |
| 39 | 1.6 |
| 40 | 2.6 |
| 41 | 2.6 |
| 42 | 4.9 |
| 43 | 0.0 |

| PIN NO | VOLTAGE(DC) |
|---|---|
| 44 | 4.9 |
| 45 | 2.7 |
| 46 | 4.9 |
| 47 | 3.8 |
| 48 | 0.0 |
| ICP03 | TB6504 |
| 1 | 0.0 |
| 2 | 4.9 |
| 3 | 4.9 |
| 4 | 4.9 |
| 5 | 4.8 |
| 6 | 2.2 |
| 7 | 4.9 |
| 8 | 4.6 |
| 9 | 0.4 |
| 10 | 0.0 |
| 11 | 0.4 |
| 12 | 2.6 |
| 13 | 0.4 |
| 14 | 0.4 |
| 15 | 0.0 |
| 16 | 2.5 |
| 17 | 4.6 |
| 18 | 3.0 |
| 19 | 0.0 |
| 20 | 4.9 |
| 21 | 0.0 |
| 22 | 2.0 |
| 23 | 4.9 |
| 24 | 4.9 |
| ICP04 | MB88346 |
| 1 | 0.0 |
| 2 | 2.7 |
| 3 | 1.3 |
| 4 | 2.7 |
| 5 | 1.9 |
| 6 | 0.0 |
| 7 | 4.3 |
| 8 | 3.1 |
| 9 | 0.0 |
| 10 | 4.9 |
| 11 | 4.9 |
| 12 | 0.0 |
| 13 | 0.0 |

| PIN NO | VOLTAGE(DC) |
|---|---|
| 14 | 0.1 |
| 15 | 0.0 |
| 16 | 0.0 |
| 17 | 4.9 |
| 18 | 4.9 |
| 19 | 4.8 |
| 20 | 0.0 |
| ICP05 | X24C01 |
| 1 | 0.0 |
| 2 | 0.0 |
| 3 | 0.0 |
| 4 | 0.0 |
| 5 | 0.0 |
| 6 | 0.0 |
| 7 | 0.0 |
| 8 | 4.9 |
| ICP06 | UPD78214GC |
| 1 | 3.5 |
| 2 | 0.0 |
| 3 | 0.0 |
| 4 | 0.0 |
| 5 | 3.6 |
| 6 | 3.5 |
| 7 | 1.6 |
| 8 | 1.6 |
| 9 | 0.0 |
| 10 | 0.0 |
| 11 | 3.6 |
| 12 | 3.6 |
| 13 | 3.6 |
| 14 | 3.6 |
| 15 | 3.6 |
| 16 | 3.6 |
| 17 | 0.0 |
| 18 | 0.0 |
| 19 | 0.0 |
| 20 | 0.0 |
| 21 | 0.0 |
| 22 | 0.0 |
| 23 | 0.0 |
| 24 | 0.0 |
| 25 | 0.0 |
| 26 | 0.0 |
| 27 | 0.0 |

| PIN NO | VOLTAGE(DC) |
|---|---|
| 28 | 0.0 |
| 29 | 0.0 |
| 30 | 0.0 |
| 31 | 4.3 |
| 32 | 4.1 |
| 33 | 4.2 |
| 34 | 0.0 |
| 35 | 3.0 |
| 36 | 4.6 |
| 37 | 0.0 |
| 38 | 4.2 |
| 39 | 2.8 |
| 40 | 3.6 |
| 41 | 3.6 |
| 42 | 0.0 |
| 43 | 2.9 |
| 44 | 0.1 |
| 45 | 3.0 |
| 46 | 1.6 |
| 47 | 1.1 |
| 48 | 0.1 |
| 49 | 0.2 |
| 50 | 0.0 |
| 51 | 0.0 |
| 52 | 0.0 |
| 53 | 0.0 |
| 54 | 0.0 |
| 55 | 0.0 |
| 56 | 0.0 |
| 57 | 0.0 |
| 58 | 0.0 |
| 59 | 0.0 |
| 60 | 3.6 |
| 61 | 0.0 |
| 62 | 0.0 |
| 63 | 0.0 |
| 64 | 3.6 |
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| PIN NO | VOLTAGE(DC) |
|---|---|
| ICP07 | 74HC132 |
| 1 | 3.9 |
| 2 | 3.9 |
| 3 | 0.7 |
| 4 | 0.7 |
| 5 | 0.7 |
| 6 | 3.9 |
| 7 | 0.0 |
| 8 | 1.5 |
| 9 | 3.0 |
| 10 | 3.0 |
| 11 | 3.0 |
| 12 | 1.3 |
| 13 | 1.3 |
| 14 | 4.6 |
| ICP08 | 7W04FU |
| 1 | 1.2 |
| 2 | 4.0 |
| 3 | 0.7 |
| 4 | 0.0 |
| 5 | 3.9 |
| 6 | 0.7 |
| 7 | 4.5 |
| 8 | 4.5 |
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| PIN NO | VOLTAGE(DC) |
|---|---|
| ICP01 | KS7301 |
| 1 | 2.0 |
| 2 | 1.8 |
| 3 | 0.0 |
| 4 | 0.0 |
| 5 | 0.0 |
| 6 | 0.0 |
| 7 | 4.7 |
| 8 | 0.0 |
| 9 | 0.0 |
| 10 | 0.0 |
| 11 | 0.0 |
| 12 | 0.0 |
| 13 | 0.0 |
| 14 | 1.3 |
| 15 | 0.2 |
| 16 | 0.2 |
| 17 | 0.2 |
| 18 | 0.2 |
| 19 | 3.9 |
| 20 | 3.9 |
| 21 | 0.0 |
| 22 | 3.9 |
| 23 | 2.7 |
| 24 | 2.8 |
| 25 | 0.8 |
| 26 | 4.7 |
| 27 | 4.4 |
| 28 | 4.4 |
| 29 | 0.2 |
| 30 | 0.2 |
| 31 | 4.4 |
| 32 | 4.4 |
| 33 | 4.7 |
| 34 | 0.0 |
| 35 | 2.7 |
| 36 | 2.2 |
| 37 | 4.7 |
| 38 | 4.7 |
| 39 | 4.7 |
| 40 | 4.7 |
| 41 | 4.7 |
| 42 | 2.2 |
| 43 | 2.2 |

| PIN NO | VOLTAGE(DC) |
|---|---|
| 44 | 0.0 |
| 45 | 0.0 |
| 46 | 0.0 |
| 47 | 0.0 |
| 48 | 3.6 |
| 49 | 4.6 |
| 50 | 4.6 |
| 51 | 0.0 |
| 52 | 0.0 |
| 53 | 4.7 |
| 54 | 3.6 |
| 55 | 0.0 |
| 56 | 0.0 |
| 57 | 0.0 |
| 58 | 3.6 |
| 59 | 0.0 |
| 60 | 0.0 |
| 61 | 0.0 |
| 62 | 0.0 |
| 63 | 0.0 |
| 64 | 0.0 |
| 64 | 0.0 |
| 65 | 0.0 |
| 66 | 0.0 |
| 67 | 0.0 |
| 68 | 0.0 |
| 69 | 0.0 |
| 70 | 0.0 |
| 71 | 0.0 |
| 72 | 0.0 |
| 73 | 0.0 |
| 74 | 0.0 |
| 75 | 4.7 |
| 76 | 4.7 |
| 77 | 4.7 |
| 78 | 4.7 |
| 79 | 0.0 |
| 80 | 0.0 |
| 81 | 4.7 |
| 82 | 0.0 |
| 83 | 0.0 |
| 84 | 0.0 |
| 85 | 0.0 |
| 86 | 0.0 |

| PIN NO | VOLTAGE(DC) |
|---|---|
| 87 | 0.0 |
| 88 | 0.0 |
| 89 | 0.0 |
| 90 | 0.0 |
| 91 | 0.0 |
| 92 | 0.0 |
| 93 | 0.0 |
| 94 | 0.0 |
| 95 | 0.0 |
| 96 | 0.0 |
| 97 | 0.0 |
| 98 | 0.0 |
| 99 | 0.0 |
| 100 | 0.0 |
| 101 | 0.0 |
| 102 | 0.0 |
| 103 | 0.0 |
| 104 | 0.0 |
| 105 | 0.0 |
| 106 | 0.0 |
| 107 | 0.0 |
| 108 | 0.0 |
| 109 | 4.3 |
| 110 | 2.7 |
| 111 | 4.5 |
| 112 | 4.3 |
| 113 | 4.7 |
| 114 | 2.5 |
| 115 | 1.9 |
| 116 | 1.9 |
| 117 | 1.9 |
| 118 | 1.9 |
| 119 | 1.9 |
| 120 | 0.0 |
| 121 | 1.0 |
| 122 | 1.6 |
| 123 | 1.5 |
| 124 | 1.5 |
| 125 | 2.2 |
| 126 | 1.8 |
| 127 | 1.8 |
| 128 | 1.8 |
| 129 | 1.8 |
| 130 | 1.8 |

| PIN NO | VOLTAGE(DC) |
|---|---|
| 131 | 4.7 |
| 132 | 1.8 |
| 133 | 2.8 |
| 134 | 0.0 |
| 135 | 0.0 |
| 136 | 4.2 |
| 137 | 4.5 |
| 138 | 4.7 |
| 139 | 4.7 |
| 140 | 2.3 |
| 141 | 4.7 |
| 142 | 4.7 |
| 143 | 1.9 |
| 144 | 1.9 |
| 145 | 2.2 |
| 146 | 2.2 |
| 147 | 1.8 |
| 148 | 1.3 |
| 149 | 1.1 |
| 150 | 1.3 |
| 151 | 4.7 |
| 152 | 4.7 |
| 153 | 0.0 |
| 154 | 0.0 |
| 155 | 4.7 |
| 156 | 0.0 |
| 157 | 4.7 |
| 158 | 0.0 |
| 159 | 4.7 |
| 160 | 0.0 |
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| PIN NO | VOLTAGE(DC) |
|---|---|
| QP01 | 2SA1179 |
| B | 4.6 |
| E | 4.6 |
| C | 1.0 |
| QP02 | 2SC2812 |
| B | 0.5 |
| E | 0.0 |
| C | 1.4 |
| QP03 | 2SA1179 |
| B | 4.3 |
| E | 5.0 |
| C | 5.0 |
| QP04 | DTC144EU |
| B | 5.0 |
| E | 0.0 |
| C | 0.0 |
| QP05 | DTC144EU |
| B | 3.6 |
| E | 4.9 |
| C | 4.9 |
| QP06 | DTC144EU |
| B | 3.6 |
| E | 0.0 |
| C | 0.0 |
| QP07 | 2SC2812 |
| B | 4.4 |
| E | 3.8 |
| C | 4.9 |
| QP08 | 2SC2812 |
| B | 3.2 |
| E | 2.6 |
| C | 4.8 |
| QP09 | 2SC2812 |
| B | 2.5 |
| E | 2.9 |
| C | 3.8 |
| QP10 | 2SC2812 |
| B | 3.8 |
| E | 4.1 |
| C | 4.8 |
| QP11 | 2SC2812 |
| B | 2.3 |
| E | 1.6 |
| C | 4.9 |

| PIN NO | VOLTAGE(DC) |
|---|---|
| QP12 | 2SC2812 |
| B | 4.0 |
| E | 3.5 |
| C | 4.9 |
| QP13 | 2SC2812 |
| B | 4.1 |
| E | 3.4 |
| C | 4.9 |
| QP14 | 2SC2812 |
| B | 4.8 |
| E | 4.2 |
| C | 4.8 |
| QP15 | 2SC2812 |
| B | 2.9 |
| E | 2.3 |
| C | 3.2 |
| QP16 | 2SC2812 |
| B | 3.4 |
| E | 2.8 |
| C | 4.9 |
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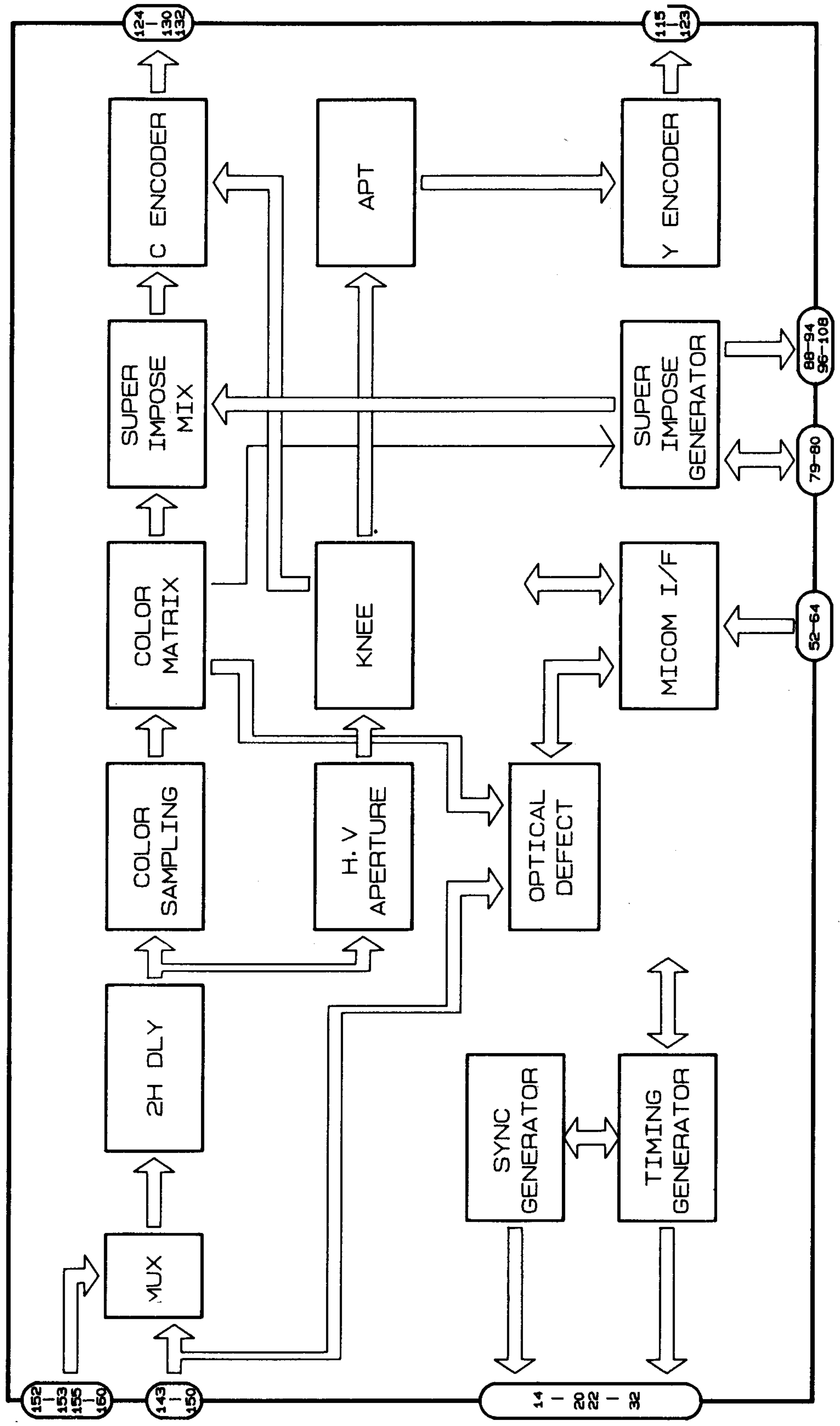
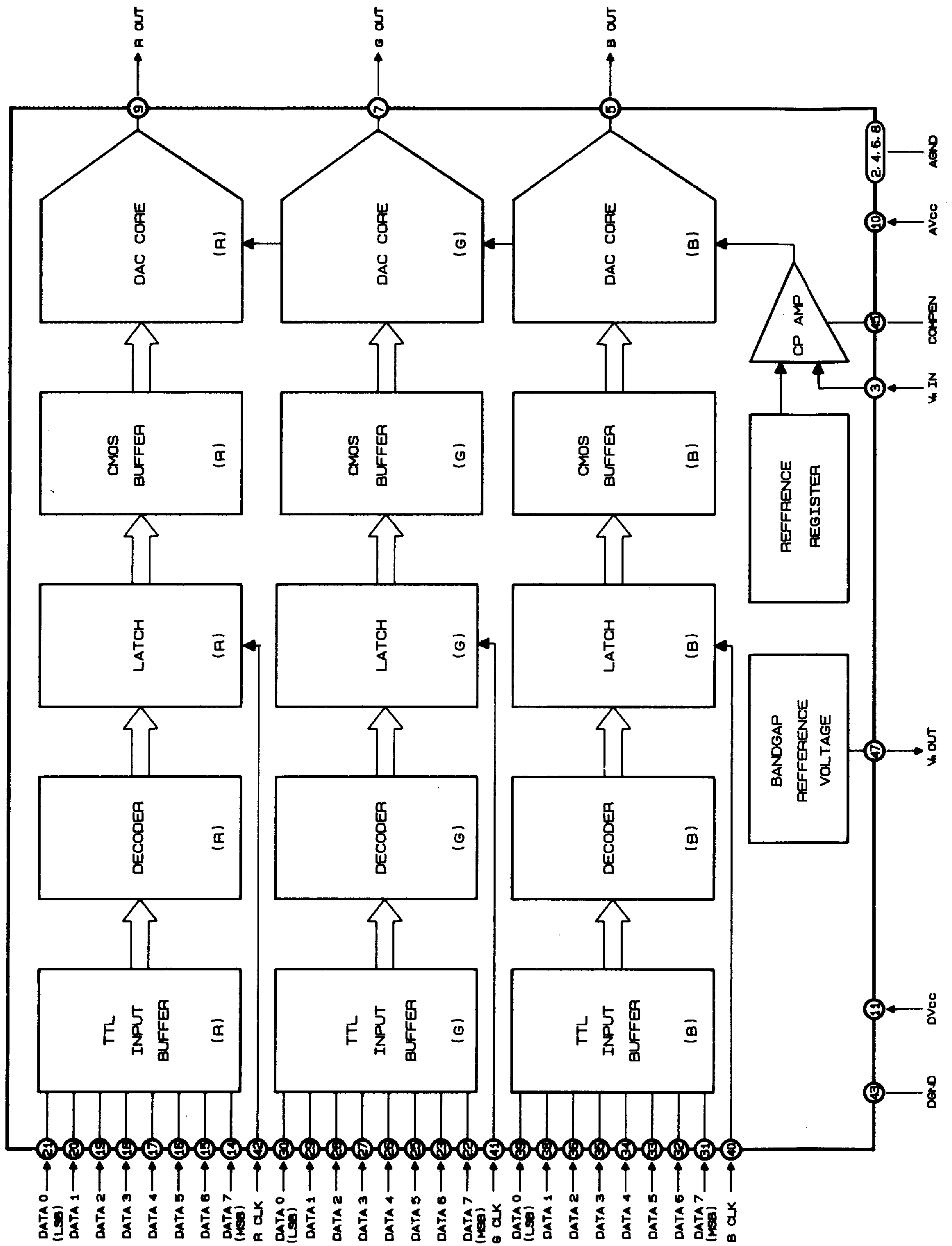
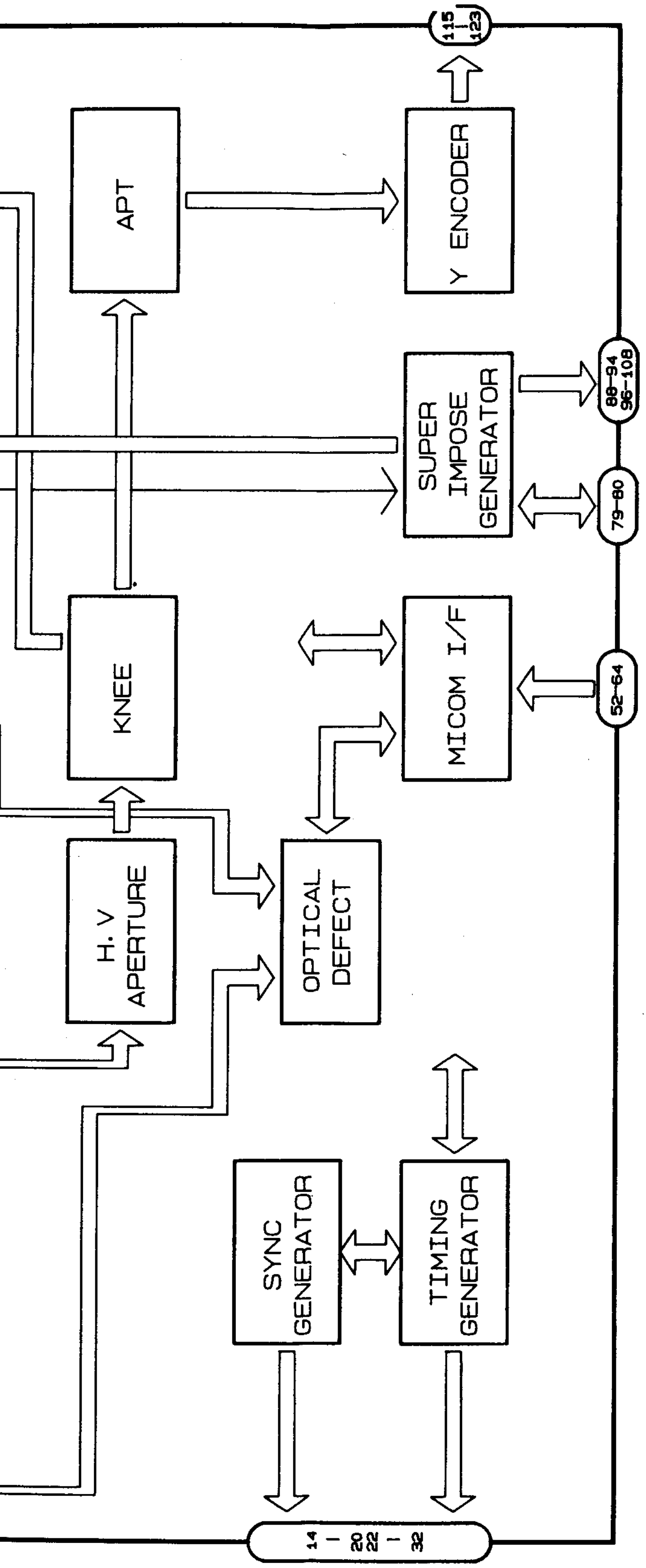
## ICP01 KS7301


124-130, 132
115-123
C ENCODER
APT
Y ENCODER
SUPER IMPOSE MIX
SUPER IMPOSE GENERATOR
88-94, 96-108
79-80
COLOR MATRIX
KNEE
MICOM I/F
52-64
COLOR SAMPLING
H.V APERTURE
OPTICAL DEFECT
2H DLY
SYNC GENERATOR
TIMING GENERATOR
MUX
152-153, 155-160
143-150
14-20, 22-32

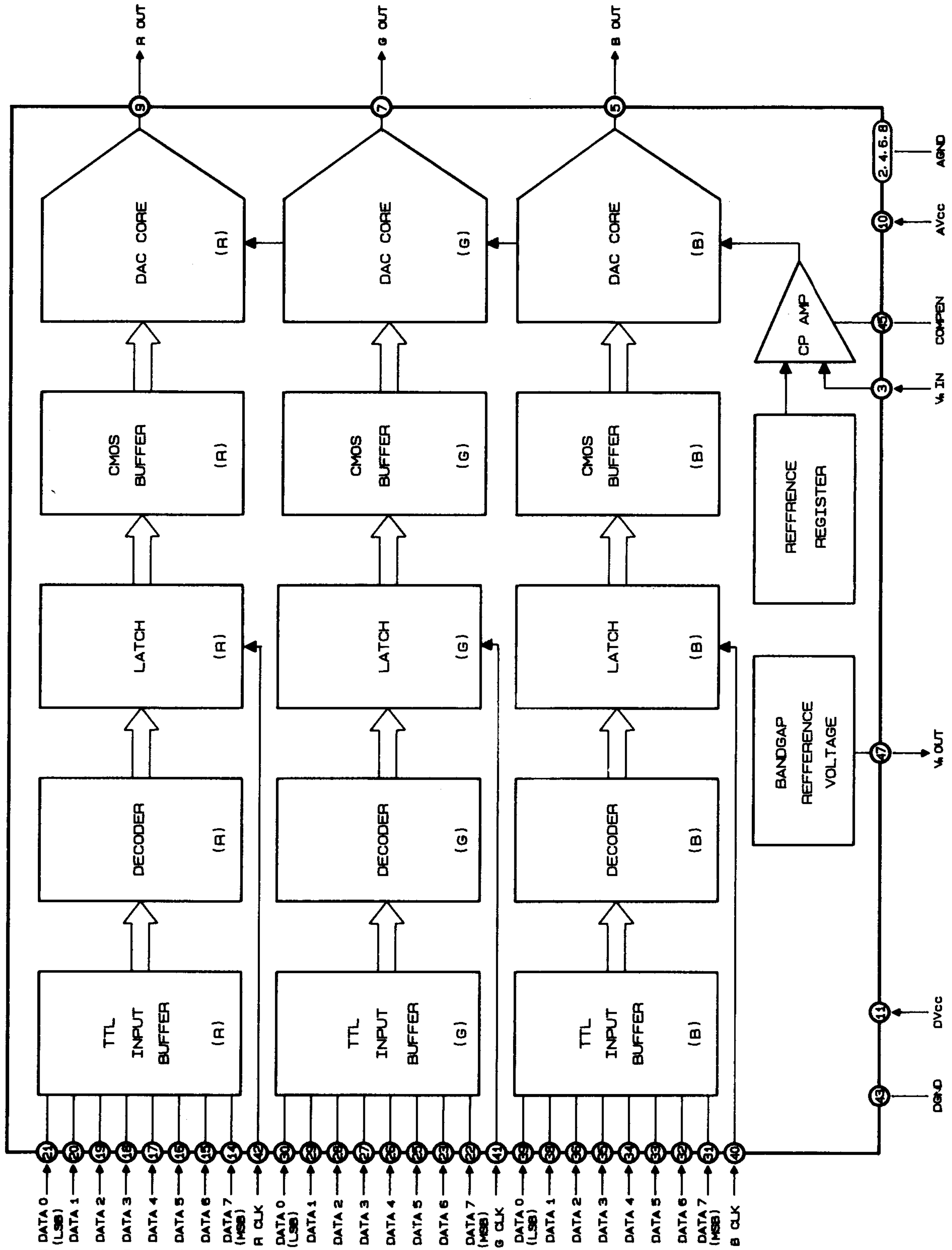
## ICP02 KDA0408


R OUT
G OUT
B OUT
9
7
5
2.4.6.8
AGND
10
AVcc
DAC CORE (R)
DAC CORE (G)
DAC CORE (B)
CP AMP
45
COMPEN
3
V IN
CMOS BUFFER (R)
CMOS BUFFER (G)
CMOS BUFFER (B)
REFFRENCE REGISTER
LATCH (R)
LATCH (G)
LATCH (B)
BANDGAP REFFERENCE VOLTAGE
47
V OUT
DECODER (R)
DECODER (G)
DECODER (B)
TTL INPUT BUFFER (R)
TTL INPUT BUFFER (G)
TTL INPUT BUFFER (B)
11
DVcc
43
DGND
21 R DATA 0 (LSB)
20 R DATA 1
19 R DATA 2
18 R DATA 3
17 R DATA 4
16 R DATA 5
15 R DATA 6
14 R DATA 7 (MSB)
42 R CLK
30 G DATA 0 (LSB)
29 G DATA 1
28 G DATA 2
27 G DATA 3
26 G DATA 4
25 G DATA 5
23 G DATA 6
22 G DATA 7 (MSB)
41 G CLK
39 B DATA 0 (LSB)
38 B DATA 1
36 B DATA 2
35 B DATA 3
34 B DATA 4
33 B DATA 5
32 B DATA 6
31 B DATA 7 (MSB)
40 B CLK

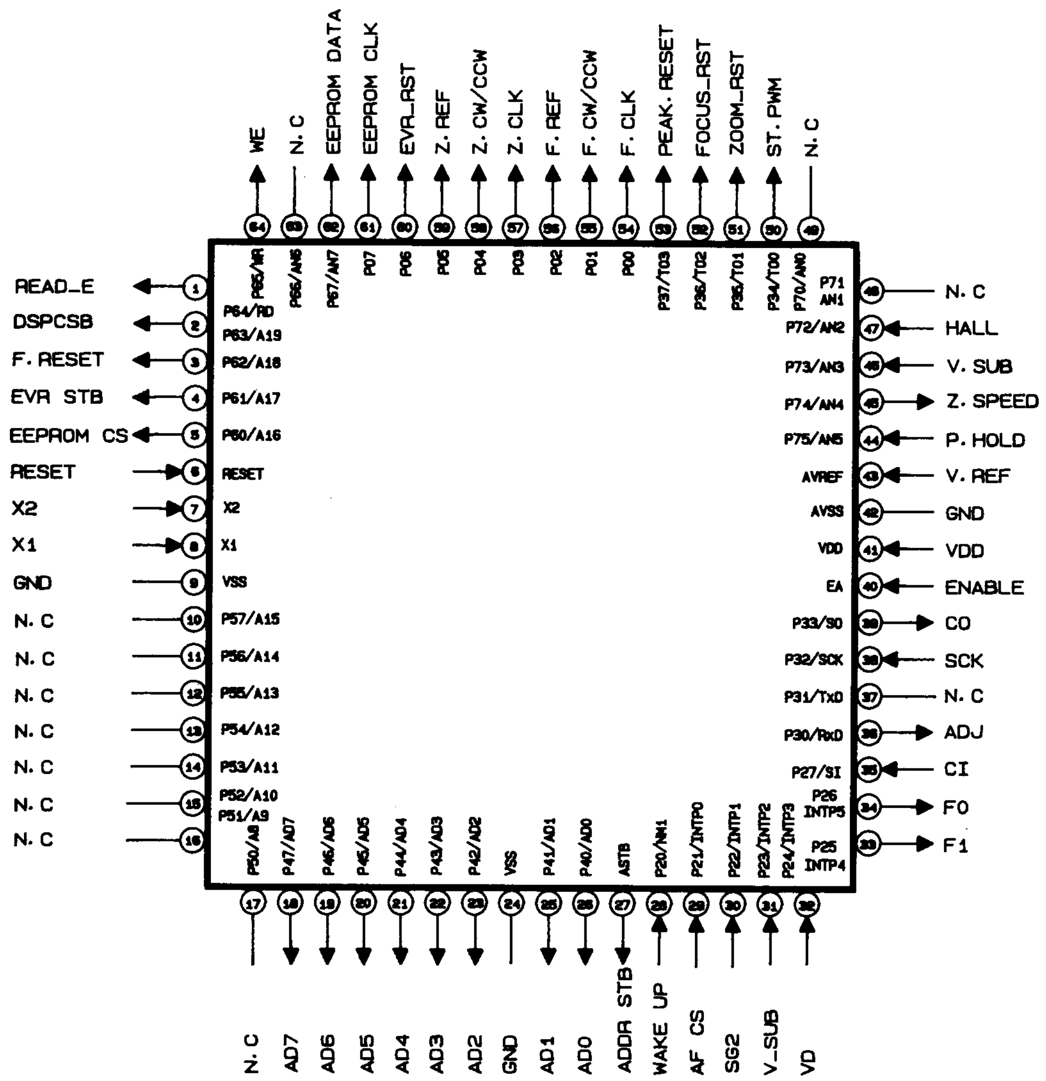
## ICP01 KS7301


115
123
APT
Y ENCODER
SUPER IMPOSE GENERATOR
88-94
96-108
79-80
KNEE
MICOM I/F
52-64
H. V APERTURE
OPTICAL DEFECT
SYNC GENERATOR
TIMING GENERATOR
14 – 20
22 – 32

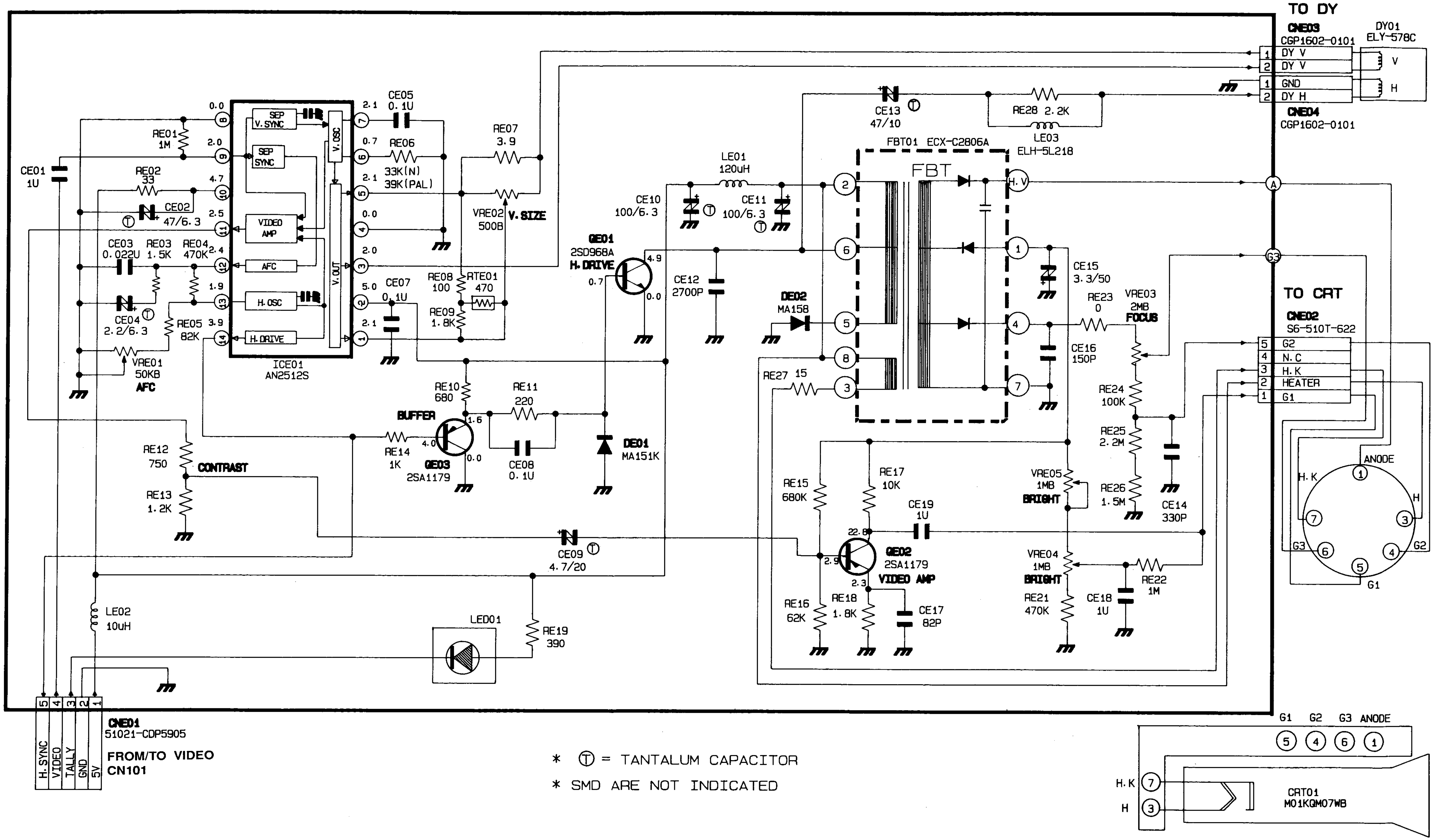
## ICP02 KDA0408


R OUT
G OUT
B OUT
9
7
5
DAC CORE (R)
DAC CORE (G)
DAC CORE (B)
CMOS BUFFER (R)
CMOS BUFFER (G)
CMOS BUFFER (B)
LATCH (R)
LATCH (G)
LATCH (B)
DECODER (R)
DECODER (G)
DECODER (B)
TTL INPUT BUFFER (R)
TTL INPUT BUFFER (G)
TTL INPUT BUFFER (B)
CP AMP
REFFRENCE REGISTER
BANDGAP REFFERENCE VOLTAGE
2.4.6.8 AGND
10 AVcc
45 COMPEN
3 VR IN
47 VR OUT
11 DVcc
43 DGND
21 R DATA 0 (LSB)
20 R DATA 1
19 R DATA 2
18 R DATA 3
17 R DATA 4
16 R DATA 5
15 R DATA 6
14 R DATA 7 (MSB)
42 R CLK
30 G DATA 0 (LSB)
29 G DATA 1
28 G DATA 2
27 G DATA 3
26 G DATA 4
25 G DATA 5
23 G DATA 6
22 G DATA 7 (MSB)
41 G CLK
39 B DATA 0 (LSB)
38 B DATA 1
36 B DATA 2
35 B DATA 3
34 B DATA 4
33 B DATA 5
32 B DATA 6
31 B DATA 7 (MSB)
40 B CLK

## ICP06 UPD78214


64 P65/WR WE
63 P66/AN6 N. C
62 P67/AN7 EEPROM DATA
61 P07 EEPROM CLK
60 P06 EVR_RST
59 P05 Z. REF
58 P04 Z. CW/CCW
57 P03 Z. CLK
56 P02 F. REF
55 P01 F. CW/CCW
54 P00 F. CLK
53 P37/TO3 PEAK. RESET
52 P36/TO2 FOCUS_RST
51 P35/TO1 ZOOM_RST
50 P34/TO0 ST. PWM
49 P70/AN0 N. C
1 P65/WR READ_E
2 P64/RD DSPCSB
3 P63/A19 F. RESET
4 P62/A18 EVR STB
5 P61/A17 EEPROM CS
6 RESET RESET
7 X2 X2
8 X1 X1
9 VSS GND
10 P57/A15 N. C
11 P56/A14 N. C
12 P55/A13 N. C
13 P54/A12 N. C
14 P53/A11 N. C
15 P52/A10 N. C
16 P51/A9 N. C
17 P50/A8 N. C
18 P47/AD7 AD7
19 P46/AD6 AD6
20 P45/AD5 AD5
21 P44/AD4 AD4
22 P43/AD3 AD3
23 P42/AD2 AD2
24 VSS GND
25 P41/AD1 AD1
26 P40/AD0 AD0
27 ASTB ADDR STB
28 P20/NMI WAKE UP
29 P21/INTP0 AF CS
30 P22/INTP1 SG2
31 P23/INTP2 V_SUB
32 P24/INTP3 VD
48 P71 AN1 N. C
47 P72/AN2 HALL
46 P73/AN3 V. SUB
45 P74/AN4 Z. SPEED
44 P75/AN5 P. HOLD
43 AVREF V. REF
42 AVSS GND
41 VDD VDD
40 EA ENABLE
39 P33/SO CO
38 P32/SCK SCK
37 P31/TxD N. C
36 P30/RxD ADJ
35 P27/SI CI
34 P26 INTP5 F0
33 P25 INTP4 F1

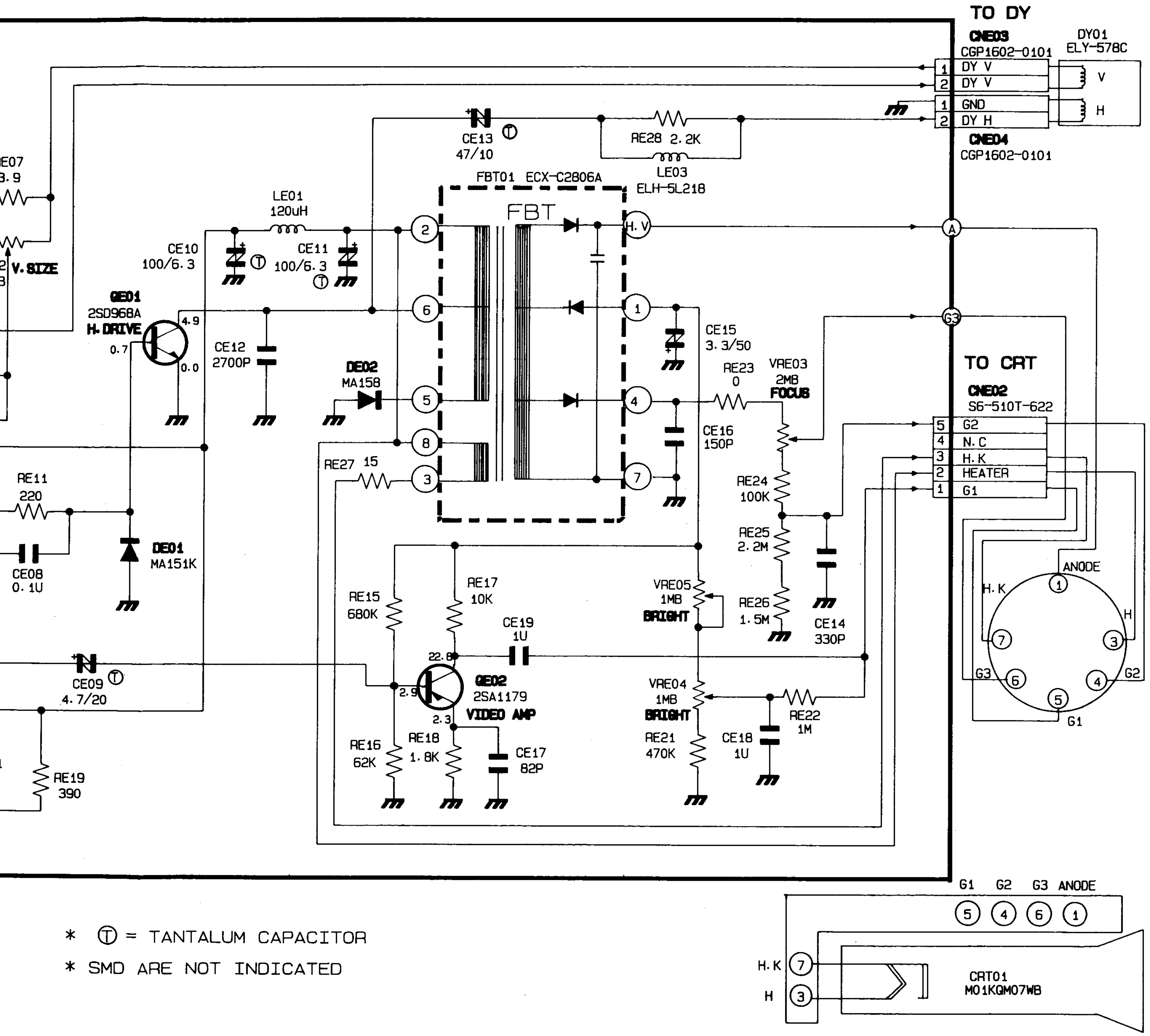
## 13-10. EVF


TO DY
CNE03
CGP1602-0101
DY01
ELY-578C
DY V
DY V
GND
DY H
V
H
CNE04
CGP1602-0101
CE05
0.1U
RE06
33K(N)
39K(PAL)
RE07
3.9
VRE02
500B
V.SIZE
RE01
1M
RE02
33
CE02
47/6.3
CE01
1U
CE03
0.022U
RE03
1.5K
RE04
470K
CE04
2.2/6.3
RE05
82K
VRE01
50KB
AFC
SEP V.SYNC
SEP SYNC
V.OSC
VIDEO AMP
AFC
H.OSC
H.DRIVE
V.OUT
ICE01
AN2512S
CE07
0.1U
RE08
100
RTE01
470
RE09
1.8K
QE01
2SD968A
H.DRIVE
CE10
100/6.3
LE01
120uH
CE11
100/6.3
CE12
2700P
CE13
47/10
RE28 2.2K
LE03
ELH-5L218
FBT01 ECX-C2806A
FBT
H.V
DE02
MA158
RE27 15
CE15
3.3/50
RE23
0
VRE03
2MB
FOCUS
CE16
150P
RE24
100K
RE25
2.2M
RE26
1.5M
CE14
330P
TO CRT
CNE02
S6-510T-622
G2
N.C
H.K
HEATER
G1
ANODE
H.K
H
G3
G2
G1
RE10
680
RE11
220
BUFFER
RE14
1K
QE03
2SA1179
CE08
0.1U
DE01
MA151K
RE12
750
CONTRAST
RE13
1.2K
CE09
4.7/20
RE15
680K
RE17
10K
CE19
1U
QE02
2SA1179
VIDEO AMP
VRE05
1MB
BRIGHT
VRE04
1MB
BRIGHT
RE22
1M
CE18
1U
RE21
470K
RE16
62K
RE18
1.8K
CE17
82P
LE02
10uH
LED01
RE19
390
CNE01
51021-CDP5905
FROM/TO VIDEO
CN101
H.SYNC
VIDEO
TALLY
GND
5V
G1 G2 G3 ANODE
CRT01
M01KQM07WB

* Ⓣ = TANTALUM CAPACITOR

* SMD ARE NOT INDICATED

| PIN |
|---|
| ICE |
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
| 10 |
| 11 |
| 12 |
| 13 |
| 14 |
| QE |
| B |
| E |
| C |
| QE |
| B |
| E |
| C |
| QE |
| B |
| E |
| C |

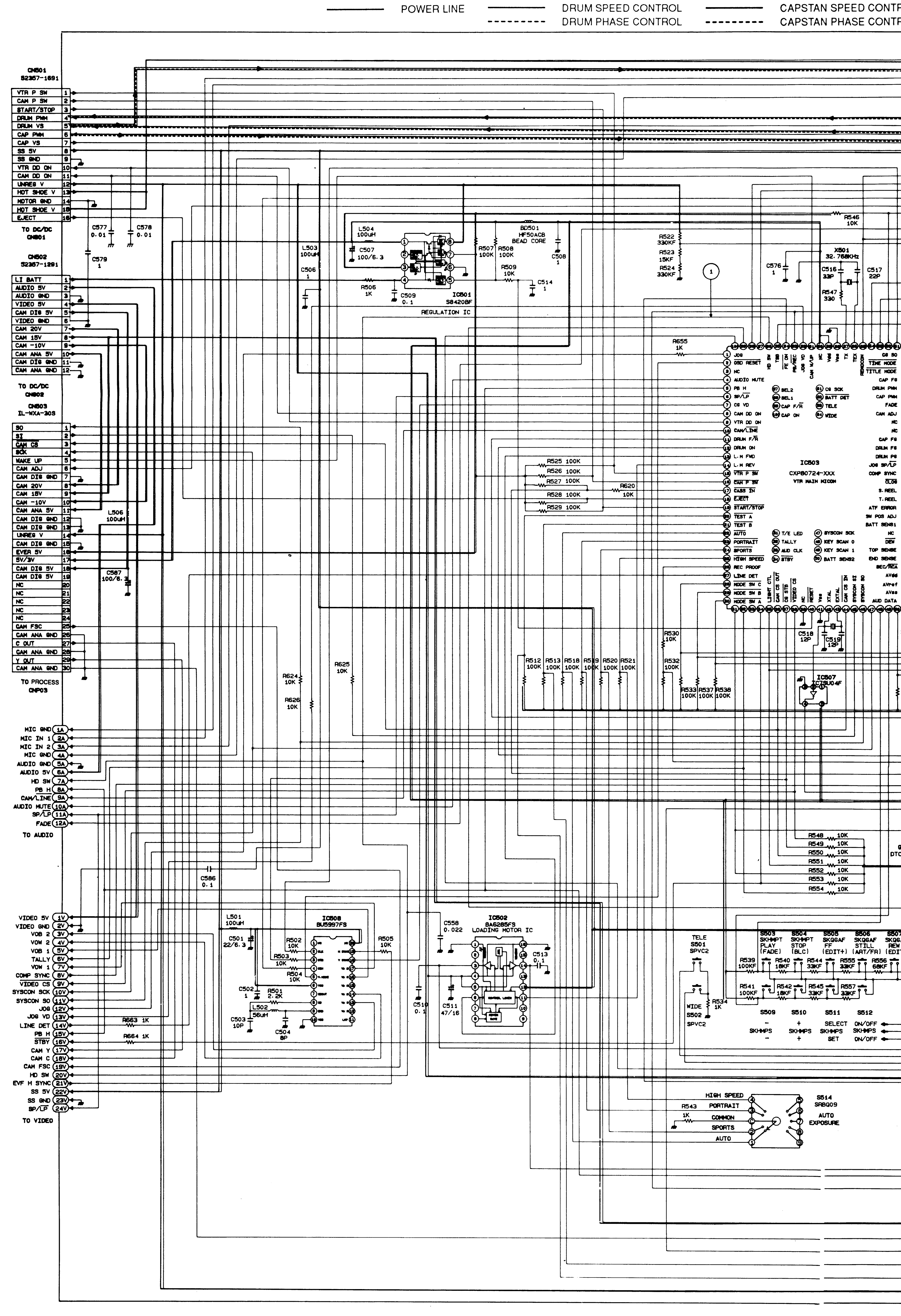

TO DY
CNE03
CGP1602-0101
DY01
ELY-578C
1 DY V
2 DY V
V
1 GND
2 DY H
H
CNE04
CGP1602-0101
CE13
47/10
Ⓣ
RE28 2.2K
LE03
ELH-5L218
FBT01 ECX-C2806A
FBT
H.V
LE01
120uH
CE10
100/6.3
CE11
100/6.3
Ⓣ
V.SIZE
QE01
2SD968A
H.DRIVE
4.9
0.7
0.0
CE12
2700P
DE02
MA158
CE15
3.3/50
RE23
0
VRE03
2MB
FOCUS
CE16
150P
RE27 15
RE24
100K
RE25
2.2M
RE26
1.5M
CE14
330P
TO CRT
CNE02
S6-510T-622
5 G2
4 N.C
3 H.K
2 HEATER
1 G1
A
G3
ANODE
H.K
H
G3
G2
G1
RE11
220
CE08
0.1U
DE01
MA151K
RE15
680K
RE17
10K
CE19
1U
22.8
2.9
2.3
QE02
2SA1179
VIDEO AMP
VRE05
1MB
BRIGHT
VRE04
1MB
BRIGHT
RE22
1M
RE21
470K
CE18
1U
RE16
62K
RE18
1.8K
CE17
82P
CE09
4.7/20
RE19
390
G1 G2 G3 ANODE
H.K
H
CRT01
M01KQM07WB

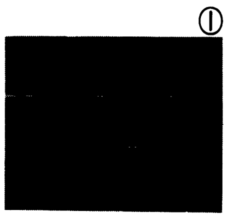
* Ⓣ = TANTALUM CAPACITOR

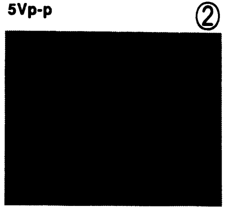
* SMD ARE NOT INDICATED

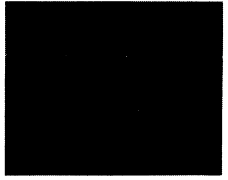
| PIN NO | VOLTAGE(DC) |
|---|---|
| ICE01 | AN2512 |
| 1 | 2.1 |
| 2 | 5.0 |
| 3 | 2.0 |
| 4 | 0.0 |
| 5 | 2.1 |
| 6 | 0.7 |
| 7 | 2.1 |
| 8 | 0.0 |
| 9 | 2.0 |
| 10 | 4.7 |
| 11 | 2.5 |
| 12 | 2.4 |
| 13 | 1.9 |
| 14 | 3.9 |
| QE01 | 2SD968A |
| B | 0.7 |
| E | 0.0 |
| C | 4.9 |
| QE02 | 2SA1179 |
| B | 2.9 |
| E | 2.3 |
| C | 22.8 |
| QE03 | 2SA1179 |
| B | 4.0 |
| E | 1.6 |
| C | 0.0 |

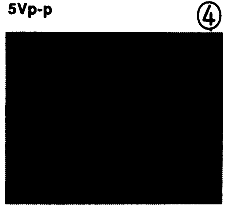
## 13-3. SYSTEM CONTROL/SERVO

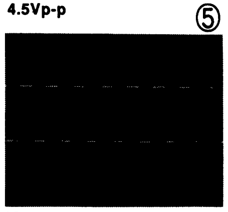

POWER LINE
DRUM SPEED CONTROL
DRUM PHASE CONTROL
CAPSTAN SPEED CONTR
CAPSTAN PHASE CONTR
CN501 52357-1691
VTR P SW
CAM P SW
START/STOP
DRUM PWM
DRUM VS
CAP PWM
CAP VS
SS 5V
SS GND
VTR DD ON
CAM DD ON
UNREG V
HOT SHOE V
MOTOR GND
HOT SHOE V
EJECT
TO DC/DC CN801
CN502 52357-1291
LI BATT
AUDIO 5V
AUDIO GND
VIDEO 5V
CAM DIG 5V
VIDEO GND
CAM 20V
CAM 15V
CAM -10V
CAM ANA 5V
CAM DIG GND
CAM ANA GND
TO DC/DC CN802
CN503 IL-WXA-30S
TO PROCESS CNP03
TO AUDIO
TO VIDEO
L504 100uH
C507 100/6.3
IC501 S8420BF REGULATION IC
BD501 HF50ACB BEAD CORE
IC503 CXP80724-XXX VTR MAIN MICON
X501 32.768KHz
IC507 TC7SU04F
IC508 BU5997FS
IC502 BA6285FS LOADING MOTOR IC
TELE S501 SPVC2
WIDE S502 SPVC2
S503 SKHMPT PLAY (FADE)
S504 SKHMPT STOP (BLC)
S505 SKQGAF FF (EDIT+)
S506 SKQGAF STILL (ART/FR)
S509 SKHMPS -
S510 SKHMPS +
S511 SKHMPS SELECT SET
S512 SKHMPS ON/OFF
S514 SRBQ09 AUTO EXPOSURE
HIGH SPEED
PORTRAIT
COMMON
SPORTS
AUTO

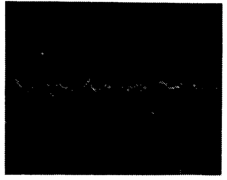

①
IC503-96
PLAY
5Vp-p


②
IC503-76
PLAY
4.5Vp-p


③
IC503-69
PLAY
5Vp-p

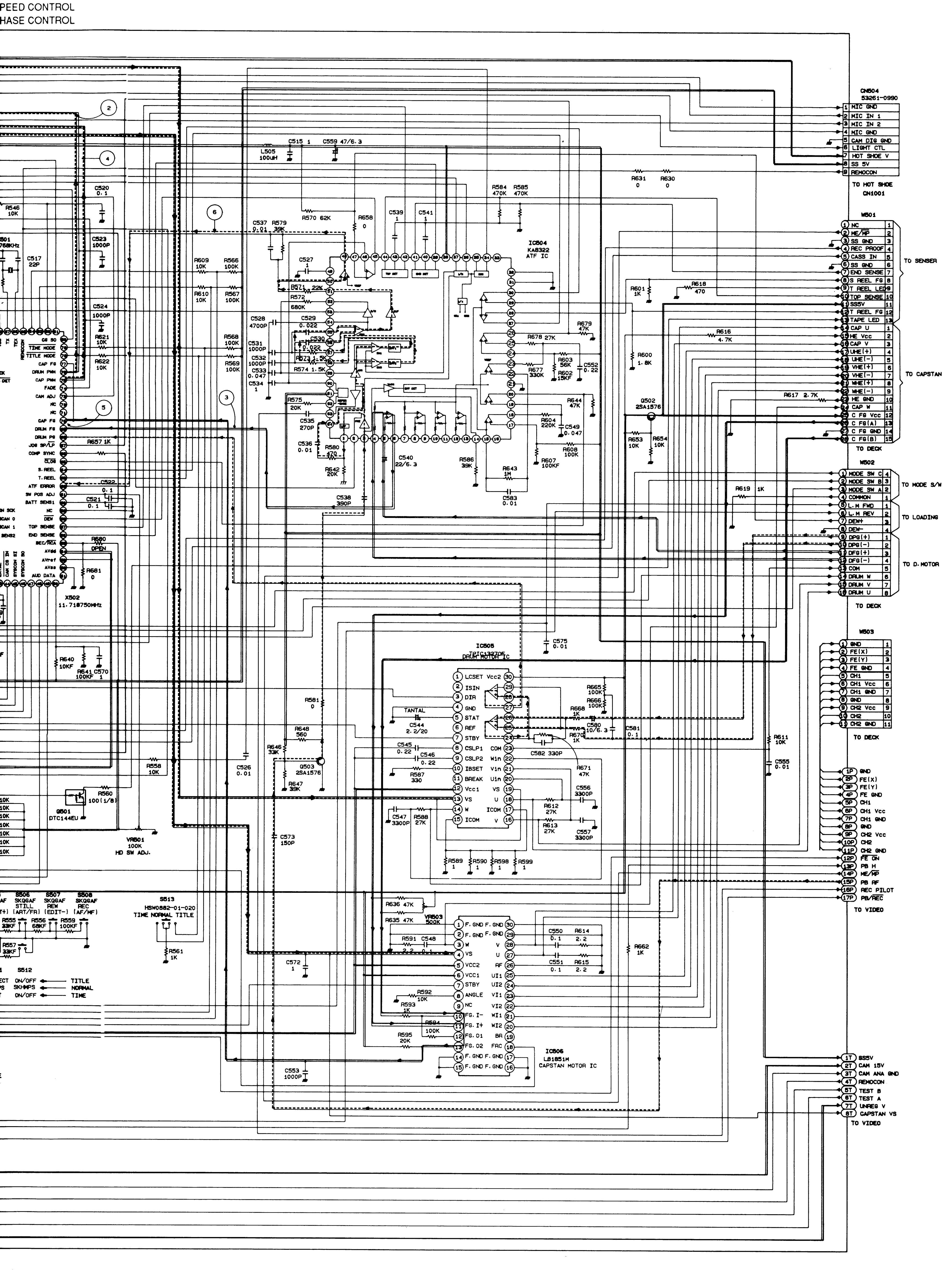

④
IC503-75
PLAY
4.5Vp-p


⑤
IC503-70
PLAY
5Vp-p

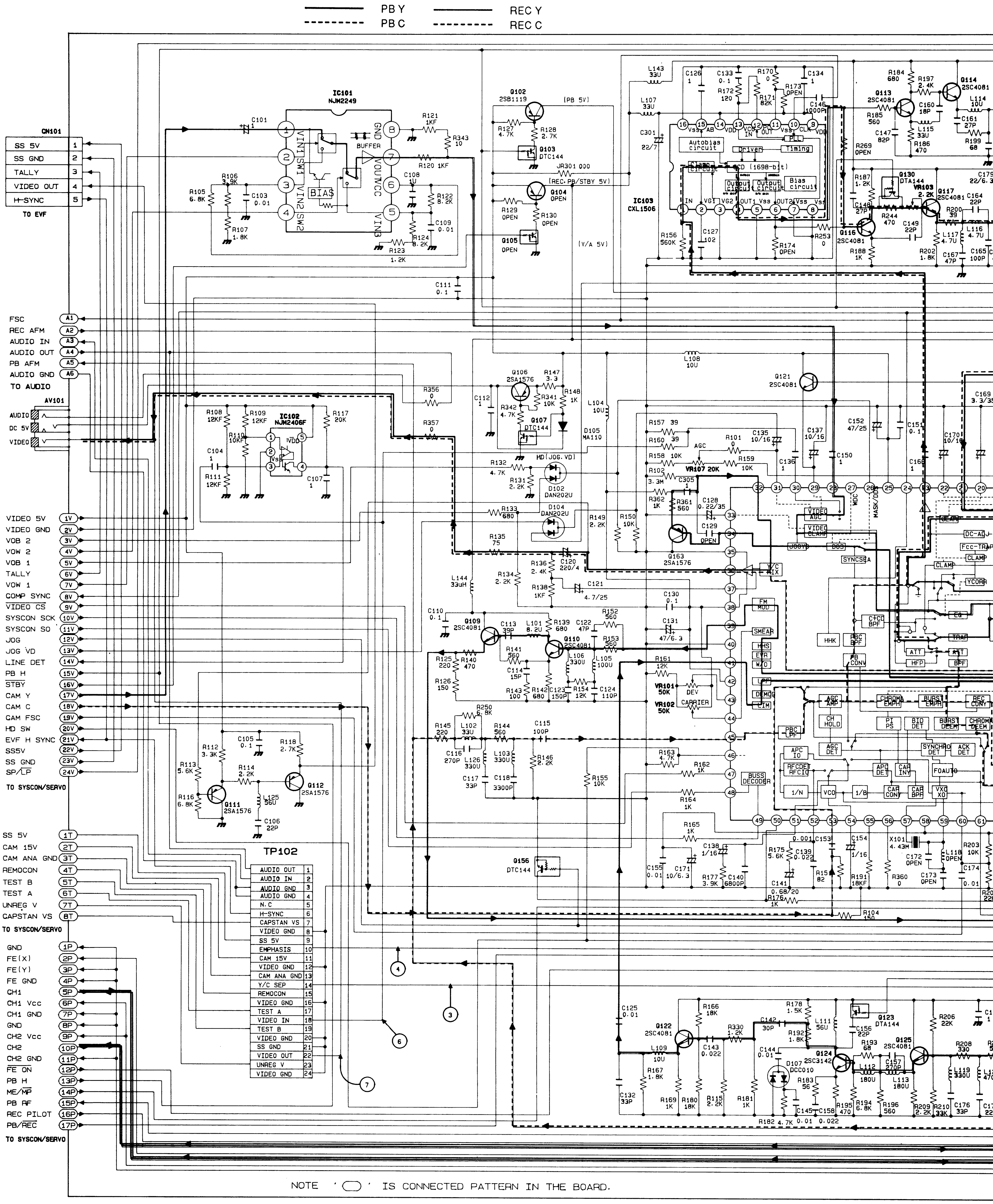

⑥
IC503-62
PLAY

# SYSTEM CONTROL SERVO

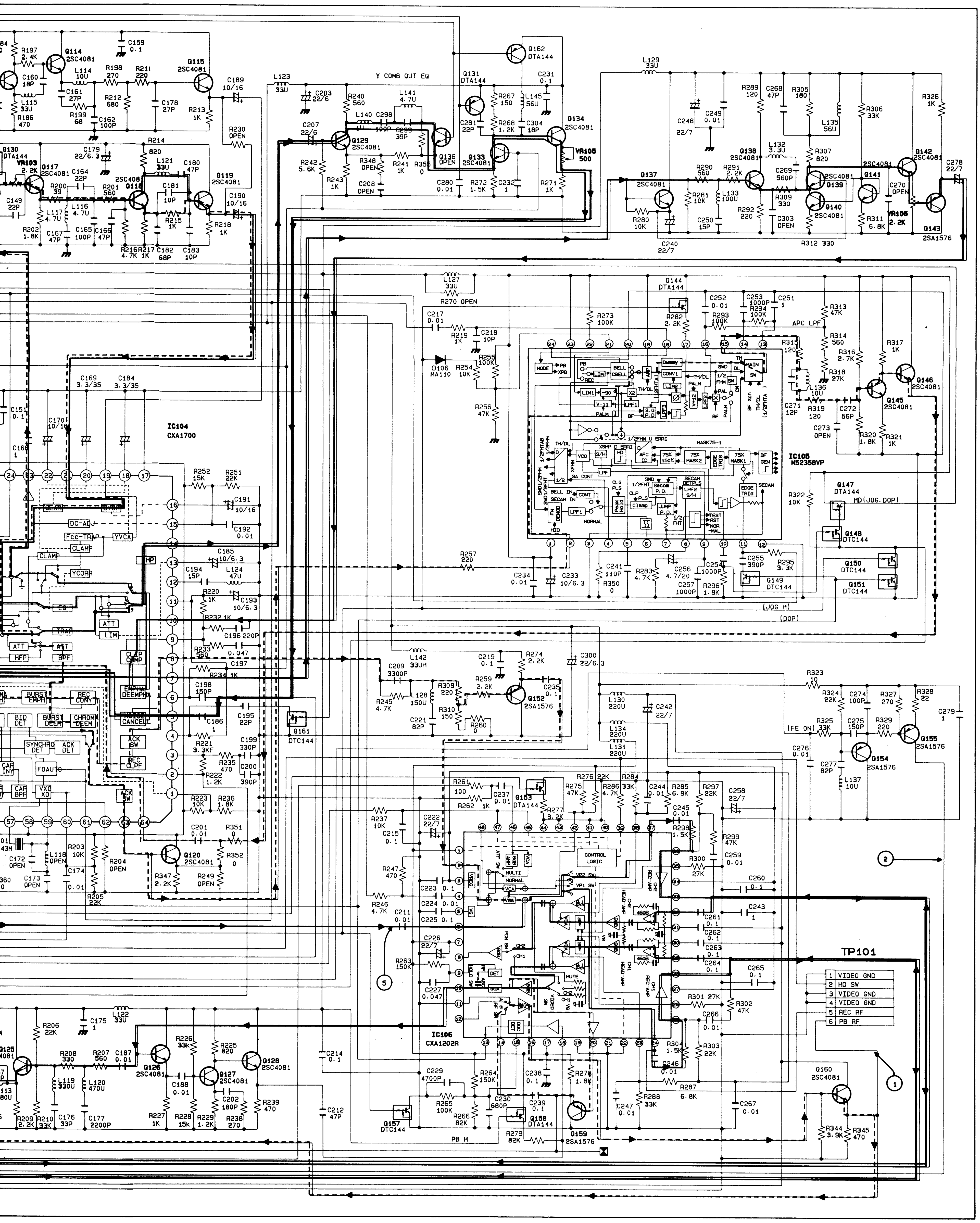
SYSTEM CONTROL SERVO

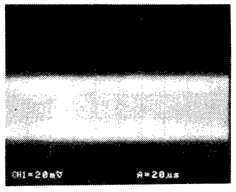

PEED CONTROL
HASE CONTROL
CN504 53261-0990
MIC GND
MIC IN 1
MIC IN 2
MIC GND
CAM DIG GND
LIGHT CTL
HOT SHOE V
SS 5V
REMOCON
TO HOT SHOE CN1001
W501
NC
ME/MP
SS GND
REC PROOF
CASS IN
SS GND
END SENSE
S REEL FG
T REEL LED
TOP SENSE
SS5V
T REEL FG
TAPE LED
TO SENSER
CAP U
HE Vcc
CAP V
UHE(+)
UHE(-)
VHE(+)
VHE(-)
WHE(+)
WHE(-)
HE GND
CAP W
C FG Vcc
C FG(A)
C FG GND
C FG(B)
TO CAPSTAN
TO DECK
W502
MODE SW C
MODE SW B
MODE SW A
COMMON
TO MODE S/W
L.M FWD
L.M REV
TO LOADING
DEW+
DEW-
DPG(+)
DPG(-)
DFG(+)
DFG(-)
COM
DRUM W
DRUM V
DRUM U
TO D.MOTOR
TO DECK
W503
GND
FE(X)
FE(Y)
FE GND
CH1
CH1 Vcc
CH1 GND
GND
CH2 Vcc
CH2
CH2 GND
TO DECK
GND
FE(X)
FE(Y)
FE GND
CH1
CH1 Vcc
CH1 GND
GND
CH2 Vcc
CH2
CH2 GND
FE ON
PB H
ME/MP
PB RF
REC PILOT
PB/REC
TO VIDEO
SS5V
CAM 15V
CAM ANA GND
REMOCON
TEST B
TEST A
UNREG V
CAPSTAN VS
TO VIDEO
IC504 KA8322 ATF IC
IC505 DRUM MOTOR IC
LCSET
ISIN
DIR
GND
STAT
REF
STBY
CSLP1
CSLP2
IBSET
BREAK
Vcc1
VS
W
ICOM
Vcc2
COM
Win
Vin
Uin
U
V
IC506 LB1851M CAPSTAN MOTOR IC
F.GND
VCC2
VCC1
ANGLE
FG.I-
FG.I+
FG.O1
FG.O2
FRC
UI1
UI2
VI1
VI2
WI1
WI2
BR
RF
Q502 2SA1576
Q503 2SA1576
Q501 DTC144EU
X502 11.718750MHz
VR501 100K HD SW ADJ.
VR503 500K
L505 100uH
S513 HSW0882-01-020
TIME NORMAL TITLE
S506 SKQGAF STILL (ART/FR)
S507 SKQGAF REW (EDIT-)
S508 SKQGAF REC (AF/MF)
S512
ON/OFF
SKHMPS
TITLE
NORMAL
TIME
CS SO
TIME MODE
TITLE MODE
CAP FG
DRUM PWM
CAP PWM
FADE
CAM ADJ
DRUM FG
DRUM PG
JOG SP/LP
COMP SYNC
CLOG
S.REEL
T.REEL
ATF ERROR
SW POS ADJ
BATT SENS1
DEW
TOP SENSE
END SENSE
REC/RCA
AVdd
AVref
AVss
AUD DATA
TANTAL
R546 10K
C520 0.1
C523 1000P
C517 22P
C524 1000P
R621 10K
R622 10K
R657 1K
C522 0.1
C521 0.1
R680 OPEN
R681 0
R640 10KF
R641 100KF
C570 1
C515 1
C559 47/6.3
R570 62K
R658 0
C539 1
C541 1
R584 470K
R585 470K
R631 0
R630 0
C537 0.01
R579 39K
C527 1
R609 10K
R566 100K
R610 10K
R567 100K
R571 22K
R572 680K
C528 4700P
C529 0.022
C530 0.022
R573 1.5K
R574 1.5K
R568 100K
R569 100K
C531 1000P
C532 1000P
C533 0.047
C534 1
R575 20K
C535 270P
C536 0.01
R580 470
R642 20K
C540 22/6.3
C538 390P
R586 39K
R643 1M
C583 0.01
R607 100KF
R608 100K
R604 220K
C549 0.047
R644 47K
R677 330K
R603 56K
R602 15KF
C552 0.22
R678 27K
R679 47K
R601 1K
R618 470
R616 4.7K
R600 1.8K
R617 2.7K
R653 10K
R654 10K
R619 1K
C575 0.01
R581 0
R648 560
R646 33K
R647 39K
C526 0.01
R558 10K
R560 100(1/8)
C544 2.2/20
C545 0.22
C546 0.22
R587 330
C547 3300P
R588 27K
R589 1
R590 1
R598 1
R599 1
R665 100K
R666 100K
R668 1K
C580 10/6.3
R670 1K
C581 0.1
C582 330P
R671 47K
C556 3300P
R612 27K
R613 27K
C557 3300P
R611 10K
C555 0.01
C573 150P
R636 47K
R635 47K
R591
C548
C550 0.1
R614 2.2
C551 0.1
R615 2.2
R662 1K
C572 1
R592 10K
R593 1K
R594 100K
R595 20K
C553 1000P
R555 33KF
R556 68KF
R559 100KF
R557 33KF
R561 1K

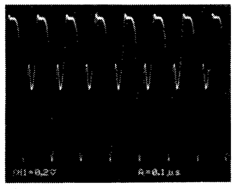
## 13-4. VIDEO

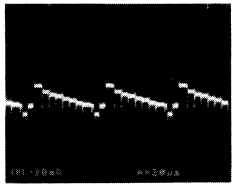

PB Y
PB C
REC Y
REC C
CN101
SS 5V 1
SS GND 2
TALLY 3
VIDEO OUT 4
H-SYNC 5
TO EVF
IC101 NJM2249
IC102 NJM2406F
IC103 CXL1506
Q102 2SB1119
Q103 DTC144
Q104 OPEN
Q105 OPEN
Q106 2SA1576
Q107 DTC144
Q109 2SC4081
Q110 2SC4081
Q111 2SA1576
Q112 2SA1576
Q113 2SC4081
Q114 2SC4081
Q116 2SC4081
Q117 2SC4081
Q121 2SC4081
Q122 2SC4081
Q123 DTA144
Q124 2SC3142
Q125 2SC4081
Q130 DTA144
Q156 DTC144
Q163 2SA1576
D102 DAN202U
D104 DAN202U
D105 MA110
D107 DCC010
X101 4.43M
VR101 50K
VR102 50K
VR103 2.2K
VR107 20K
FSC A1
REC AFM A2
AUDIO IN A3
AUDIO OUT A4
PB AFM A5
AUDIO GND A6
TO AUDIO
AV101
AUDIO
DC 5V
VIDEO
VIDEO 5V 1V
VIDEO GND 2V
VOB 2 3V
VOW 2 4V
VOB 1 5V
TALLY 6V
VOW 1 7V
COMP SYNC 8V
VIDEO CS 9V
SYSCON SCK 10V
SYSCON SO 11V
JOG 12V
JOG VD 13V
LINE DET 14V
PB H 15V
STBY 16V
CAM Y 17V
CAM C 18V
CAM FSC 19V
HD SW 20V
EVF H SYNC 21V
SS5V 22V
SS GND 23V
SP/LP 24V
TO SYSCON/SERVO
SS 5V 1T
CAM 15V 2T
CAM ANA GND 3T
REMOCON 4T
TEST B 5T
TEST A 6T
UNREG V 7T
CAPSTAN VS 8T
TO SYSCON/SERVO
GND 1P
FE(X) 2P
FE(Y) 3P
FE GND 4P
CH1 5P
CH1 Vcc 6P
CH1 GND 7P
GND 8P
CH2 Vcc 9P
CH2 10P
CH2 GND 11P
FE ON 12P
PB H 13P
ME/MP 14P
PB RF 15P
REC PILOT 16P
PB/REC 17P
TO SYSCON/SERVO
TP102
AUDIO OUT 1
AUDIO IN 2
AUDIO GND 3
AUDIO GND 4
N.C 5
H-SYNC 6
CAPSTAN VS 7
VIDEO GND 8
SS 5V 9
EMPHASIS 10
CAM 15V 11
VIDEO GND 12
CAM ANA GND 13
Y/C SEP 14
REMOCON 15
VIDEO GND 16
TEST A 17
VIDEO IN 18
TEST B 19
VIDEO GND 20
SS GND 21
VIDEO OUT 22
UNREG V 23
VIDEO GND 24
BUFFER
BIAS
Autobias circuit
Driver
Timing
PLL
Output circuit
Bias circuit
AGC
VIDEO AGC
VIDEO CLAMP
SYNCSEP
Y/C MIX
FM MOD
SHEAR
DEMOD
LIM
LPF
BUSS DECODER
DEV
CARRIER
AGC AMP
CHROMA EMPH
BURST EMPH
REC CONV
PI PS
BID DET
SYNCHRO DET
ACK DET
APC DET
CAR INV
FOAUTO
CAR CONV
CAR BPF
VXO
VCO
1/N
1/8
RFCDET RFCIO
APC IO
AGC DET
CH HOLD
PBC LPF
HHK
PBC BPF
PB CONV
C+CD BPF
ATT
HFP
FIL
BPF
TRAP
EQ
YCORR
CLAMP
Fcc-TRAP
DC-ADJ
MDC
MASK/DD
(PB 5V)
(REC・PB/STBY 5V)
(V/A 5V)
HD(JOG.VD)

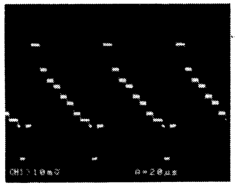
NOTE '○' IS CONNECTED PATTERN IN THE BOARD.

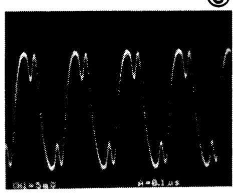

Y COMB OUT EQ
IC104
CXA1700
IC105
M52358VP
IC106
CXA1202R
TP101
1 VIDEO GND
2 HD SW
3 VIDEO GND
4 VIDEO GND
5 REC RF
6 PB RF
Q114 2SC4081
Q115 2SC4081
Q117 2SC4081
Q118 2SC4081
Q119 2SC4081
Q129 2SC4081
Q131 DTA144
Q133 2SC4081
Q134 2SC4081
Q136 OPEN
Q137 2SC4081
Q138 2SC4081
Q139 2SC4081
Q140 2SC4081
Q141
Q142 2SC4081
Q143 2SA1576
Q144 DTA144
Q145 2SC4081
Q146 2SC4081
Q147 DTA144
Q148 DTC144
Q149 DTC144
Q150 DTC144
Q151 DTC144
Q152 2SA1576
Q153 DTA144
Q154 2SA1576
Q155 2SA1576
Q157 DTC144
Q158 DTA144
Q159 2SA1576
Q160 2SC4081
Q161 DTC144
Q162 DTA144
Q120 2SC4081
Q125
Q126 2SC4081
Q127 2SC4081
Q128 2SC4081
VR103
VR105 500
VR106 2.2K
D106 MA110
APC LPF
HD (JOG.DOP)
(JOG H)
(DOP)
(FE ON)
PB H

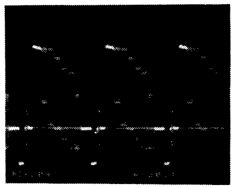

①
Q160-E
PLAY
600mVp-p

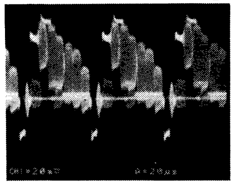

②
Q155-C
REC
12Vp-p


③
IC104-2
REC
800mVp-p

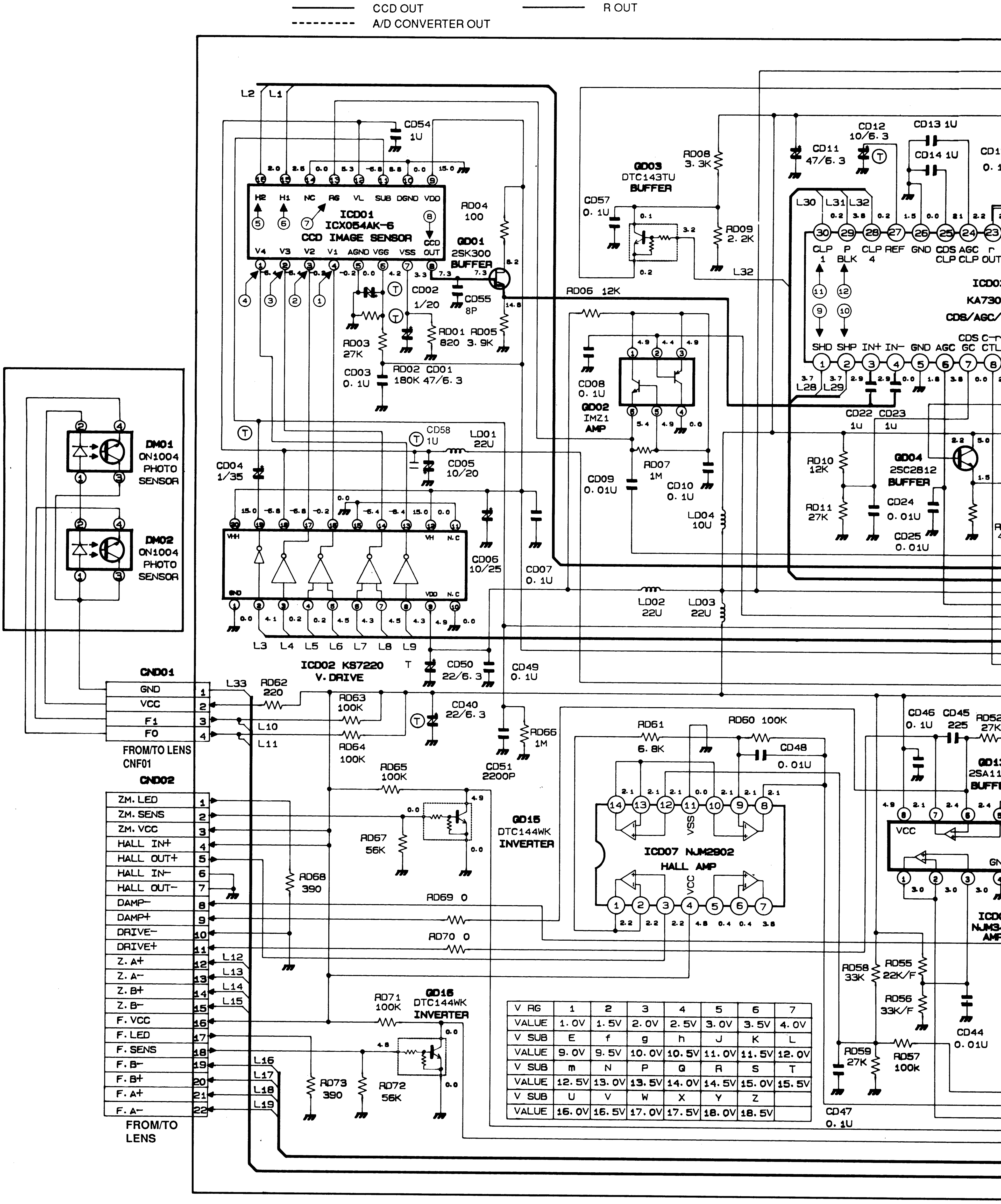

④
TP102-10
REC
0.5Vp-p


⑤
TP101-5
REC
260mVp-p

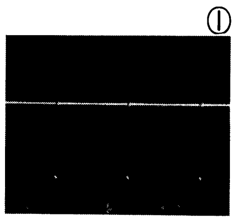

⑥
TP102-18
REC
1Vp-p

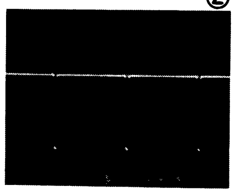

⑦
TP102-22
PLAY
1Vp-p

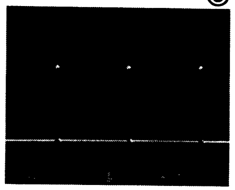
## 13-8. CCD

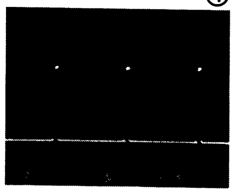

CCD OUT
A/D CONVERTER OUT
R OUT
ICD01 ICX054AK-6 CCD IMAGE SENSOR
QD01 2SK300 BUFFER
QD03 DTC143TU BUFFER
QD02 IMZ1 AMP
QD04 2SC2812 BUFFER
ICD03 KA730
CDS/AGC/
ICD02 KS7220 V. DRIVE
DM01 ON1004 PHOTO SENSOR
DM02 ON1004 PHOTO SENSOR
CND01
GND
VCC
F1
F0
FROM/TO LENS CNF01
CND02
ZM. LED
ZM. SENS
ZM. VCC
HALL IN+
HALL OUT+
HALL IN−
HALL OUT−
DAMP−
DAMP+
DRIVE−
DRIVE+
Z. A+
Z. A−
Z. B+
Z. B−
F. VCC
F. LED
F. SENS
F. B−
F. B+
F. A+
F. A−
FROM/TO LENS
QD15 DTC144WK INVERTER
QD16 DTC144WK INVERTER
ICD07 NJM2902 HALL AMP
RD01 820
RD02 180K
RD03 27K
RD04 100
RD05 3.9K
RD06 12K
RD07 1M
RD08 3.3K
RD09 2.2K
RD10 12K
RD11 27K
RD55 22K/F
RD56 33K/F
RD57 100K
RD58 33K
RD59 27K
RD60 100K
RD61 6.8K
RD62 220
RD63 100K
RD64 100K
RD65 100K
RD66 1M
RD67 56K
RD68 390
RD69 0
RD70 0
RD71 100K
RD72 56K
RD73 390
CD01 47/6.3
CD02 1/20
CD03 0.1U
CD04 1/35
CD05 10/20
CD06 10/25
CD07 0.1U
CD08 0.1U
CD09 0.01U
CD10 0.1U
CD11 47/6.3
CD12 10/6.3
CD13 1U
CD14 1U
CD22 1U
CD23 1U
CD24 0.01U
CD25 0.01U
CD40 22/6.3
CD44 0.01U
CD46 0.1U
CD45 225
CD47 0.1U
CD48 0.01U
CD49 0.1U
CD50 22/6.3
CD51 2200P
CD54 1U
CD55 8P
CD57 0.1U
CD58 1U
LD01 22U
LD02 22U
LD03 22U
LD04 10U
L1 L2 L3 L4 L5 L6 L7 L8 L9 L10 L11 L12 L13 L14 L15 L16 L17 L18 L19 L28 L29 L30 L31 L32 L33
H2 H1 NC RG VL SUB DGND VDD
V4 V3 V2 V1 AGND VGG VSS CCD OUT
CLP1 P BLK CLP4 REF GND CDS CLP AGC CLP r OUT
SHD SHP IN+ IN− GND AGC GC CTL
CDS C
VCC VSS GND
2SA11
BUFF
ICD
NJM3
AMP
RD52 27K

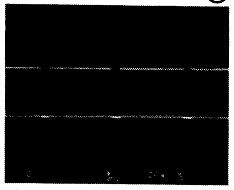
| V RG | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| VALUE | 1. 0V | 1. 5V | 2. 0V | 2. 5V | 3. 0V | 3. 5V | 4. 0V |
| V SUB | E | f | g | h | J | K | L |
| VALUE | 9. 0V | 9. 5V | 10. 0V | 10. 5V | 11. 0V | 11. 5V | 12. 0V |
| V SUB | m | N | P | Q | R | S | T |
| VALUE | 12. 5V | 13. 0V | 13. 5V | 14. 0V | 14. 5V | 15. 0V | 15. 5V |
| V SUB | U | V | W | X | Y | Z | |
| VALUE | 16. 0V | 16. 5V | 17. 0V | 17. 5V | 18. 0V | 18. 5V | |

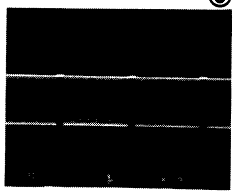
①

ICD01-4
V1

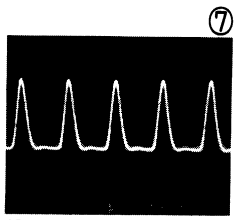
②

ICD01-3
V2

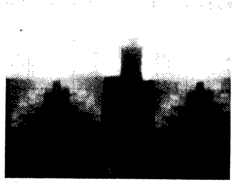
③

ICD01-2
V3

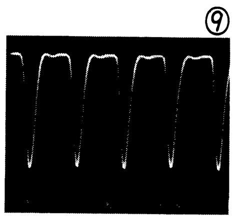
④

ICD01-1
V4

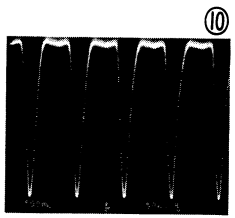
⑤

ICD01-16
H2

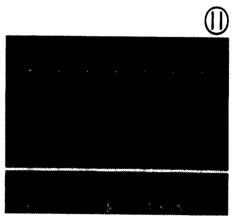
⑥

ICD01-15
H1

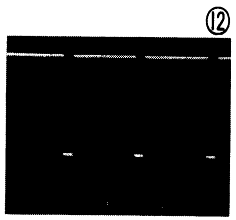
⑦

ICD01-13
RG

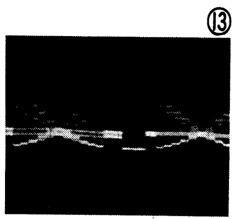
⑧

ICD01-8
CCD OUT

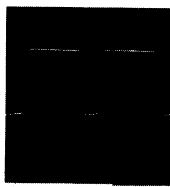
⑨

ICD03-1
SHD

⑩

ICD03-2
SHP

⑪

ICD03-30
CLP1

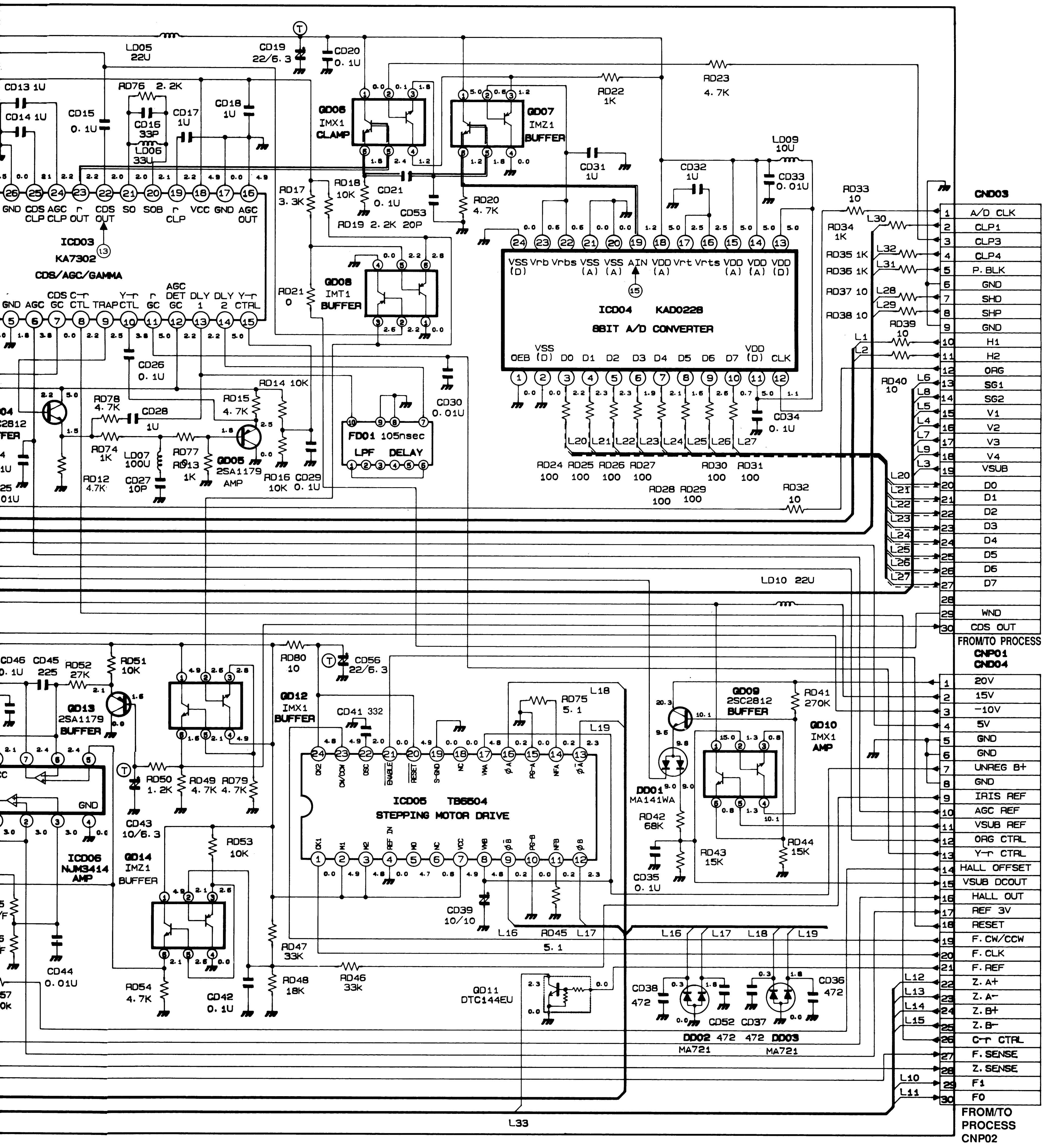
⑫

ICD03-29
P.BLK

⑬

ICD03-22
CDS OUT

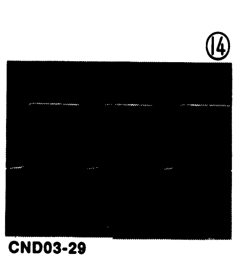

CND03-29
WND

C C D

C C D

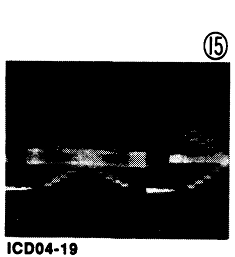

ICD03
KA7302
CDS/AGC/GAMMA
ICD04 KAD0228
8BIT A/D CONVERTER
VSS (D) Vrb Vrbs VSS (A) VSS (A) AIN VDD (A) Vrt Vrts VDD (A) VDD (A) VDD (D)
OEB VSS (D) D0 D1 D2 D3 D4 D5 D6 D7 VDD (D) CLK
QD06 IMX1 CLAMP
QD07 IMZ1 BUFFER
QD08 IMT1 BUFFER
QD05 2SA1179 AMP
FD01 105nsec LPF DELAY
ICD05 TB6504
STEPPING MOTOR DRIVE
ICD06 NJM3414 AMP
QD12 IMX1 BUFFER
QD13 2SA1179 BUFFER
QD14 IMZ1 BUFFER
QD09 2SC2812 BUFFER
QD10 IMX1 AMP
QD11 DTC144EU
DD01 MA141WA
DD02 472 472 DD03
MA721 MA721
LD05 22U
LD10 22U
L33
CND03
1 A/D CLK
2 CLP1
3 CLP3
4 CLP4
5 P. BLK
6 GND
7 SHD
8 SHP
9 GND
10 H1
11 H2
12 ORG
13 SG1
14 SG2
15 V1
16 V2
17 V3
18 V4
19 VSUB
20 D0
21 D1
22 D2
23 D3
24 D4
25 D5
26 D6
27 D7
28
29 WND
30 CDS OUT
FROM/TO PROCESS
CNP01
CND04
1 20V
2 15V
3 −10V
4 5V
5 GND
6 GND
7 UNREG B+
8 GND
9 IRIS REF
10 AGC REF
11 VSUB REF
12 ORG CTRL
13 Y-γ CTRL
14 HALL OFFSET
15 VSUB DCOUT
16 HALL OUT
17 REF 3V
18 RESET
19 F. CW/CCW
20 F. CLK
21 F. REF
22 Z. A+
23 Z. A−
24 Z. B+
25 Z. B−
26 C-γ CTRL
27 F. SENSE
28 Z. SENSE
29 F1
30 F0
FROM/TO PROCESS
CNP02

⑭



CND03-29
WND

⑮



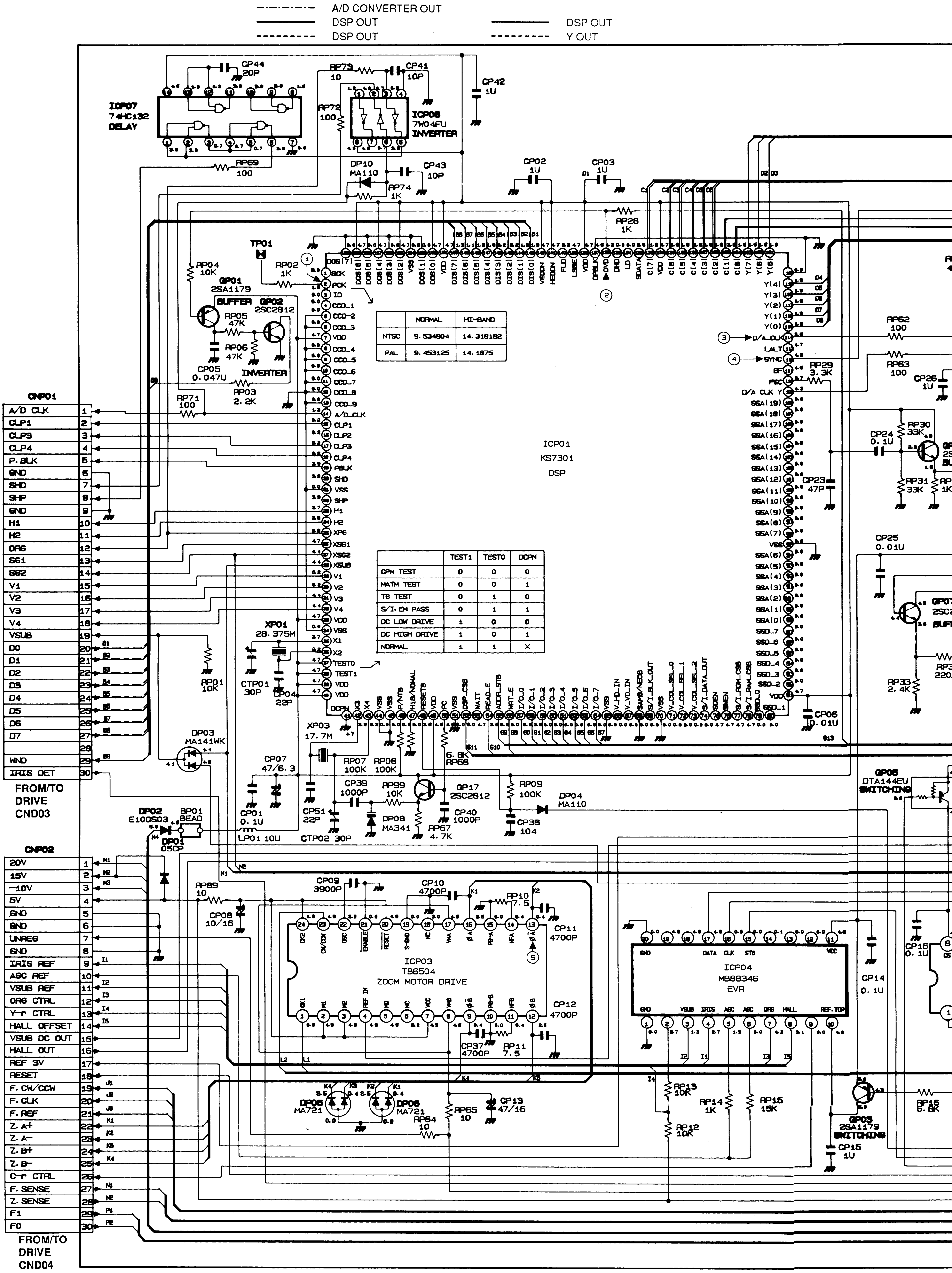
ICD04-19
A IN (Analog)

* Ⓣ = TANTALUM CAPACITOR

* SMD ARE NOT INDICATED

* /F = F GRADE OF RESISTER

## 13-9. PROCESS


A/D CONVERTER OUT
DSP OUT
DSP OUT
DSP OUT
Y OUT
ICP07
74HC132
DELAY
ICP08
7W04FU
INVERTER
CP44 20P
CP41 10P
CP42 1U
RP73 10
RP72 100
RP69 100
DP10 MA110
CP43 10P
RP74 1K
CP02 1U
CP03 1U
RP28 1K
TP01
RP04 10K
RP02 1K
QP01 2SA1179
BUFFER
QP02 2SC2812
INVERTER
RP05 47K
RP06 47K
CP05 0.047U
RP03 2.2K
RP71 100
ICP01
KS7301
DSP
RP62 100
RP63 100
RP29 3.3K
CP26 1U
CP24 0.1U
RP30 33K
RP31 33K
CP23 47P
CP25 0.01U
RP33 2.4K
CP06 0.01U
XP01 28.375M
CTP01 30P
CP04 22P
RP01 10K
XP03 17.7M
CP07 47/6.3
RP07 100K
RP08 100K
CP39 1000P
RP99 10K
QP17 2SC2812
6.8K RP68
RP09 100K
DP04 MA110
CP38 104
CP40 1000P
RP67 4.7K
DP08 MA341
CP51 22P
CP01 0.1U
LP01 10U
CTP02 30P
DP03 MA141WK
DP02 E10QS03
BP01 BEAD
DP01 05CP
QP05 DTA144EU SWITCHING
CNP01
A/D CLK 1
CLP1 2
CLP3 3
CLP4 4
P.BLK 5
GND 6
SHD 7
SHP 8
GND 9
H1 10
H2 11
ORG 12
SG1 13
SG2 14
V1 15
V2 16
V3 17
V4 18
VSUB 19
D0 20
D1 21
D2 22
D3 23
D4 24
D5 25
D6 26
D7 27
28
WND 29
IRIS DET 30
FROM/TO DRIVE CND03
CNP02
20V 1
15V 2
−10V 3
5V 4
GND 5
GND 6
UNREG 7
GND 8
IRIS REF 9
AGC REF 10
VSUB REF 11
ORG CTRL 12
Y-r CTRL 13
HALL OFFSET 14
VSUB DC OUT 15
HALL OUT 16
REF 3V 17
RESET 18
F. CW/CCW 19
F. CLK 20
F. REF 21
Z. A+ 22
Z. A− 23
Z. B+ 24
Z. B− 25
C-r CTRL 26
F. SENSE 27
Z. SENSE 28
F1 29
F0 30
FROM/TO DRIVE CND04
RP89 10
CP08 10/16
CP09 3900P
CP10 4700P
RP10 7.5
CP11 4700P
CP12 4700P
CP37 4700P
RP11 7.5
ICP03
TB6504
ZOOM MOTOR DRIVE
ICP04
MB88346
EVR
CP14 0.1U
CP16 0.1U
RP13 10K
RP14 1K
RP15 15K
RP12 10K
QP03 2SA1179 SWITCHING
CP15 1U
RP16 6.8K
DP05 MA721
DP06 MA721
RP64 10
RP65 10
CP13 47/16

| | NORMAL | HI-BAND |
|---|---|---|
| NTSC | 9.534804 | 14.318182 |
| PAL | 9.453125 | 14.1875 |

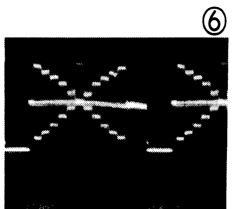
| | TEST1 | TEST0 | DCPN |
|---|---|---|---|
| CPM TEST | 0 | 0 | 0 |
| MATM TEST | 0 | 0 | 1 |
| TG TEST | 0 | 1 | 0 |
| S/I. EM PASS | 0 | 1 | 1 |
| DC LOW DRIVE | 1 | 0 | 0 |
| DC HIGH DRIVE | 1 | 0 | 1 |
| NORMAL | 1 | 1 | X |

* Ⓣ= TANTALUM CAPACITOR

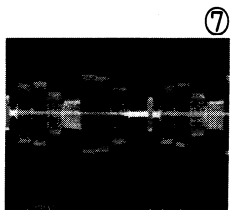
* SMD ARE NOT INDICATED

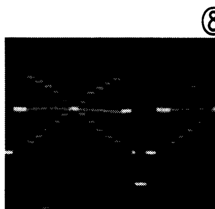
* /F = F GRADE OF RESISTER

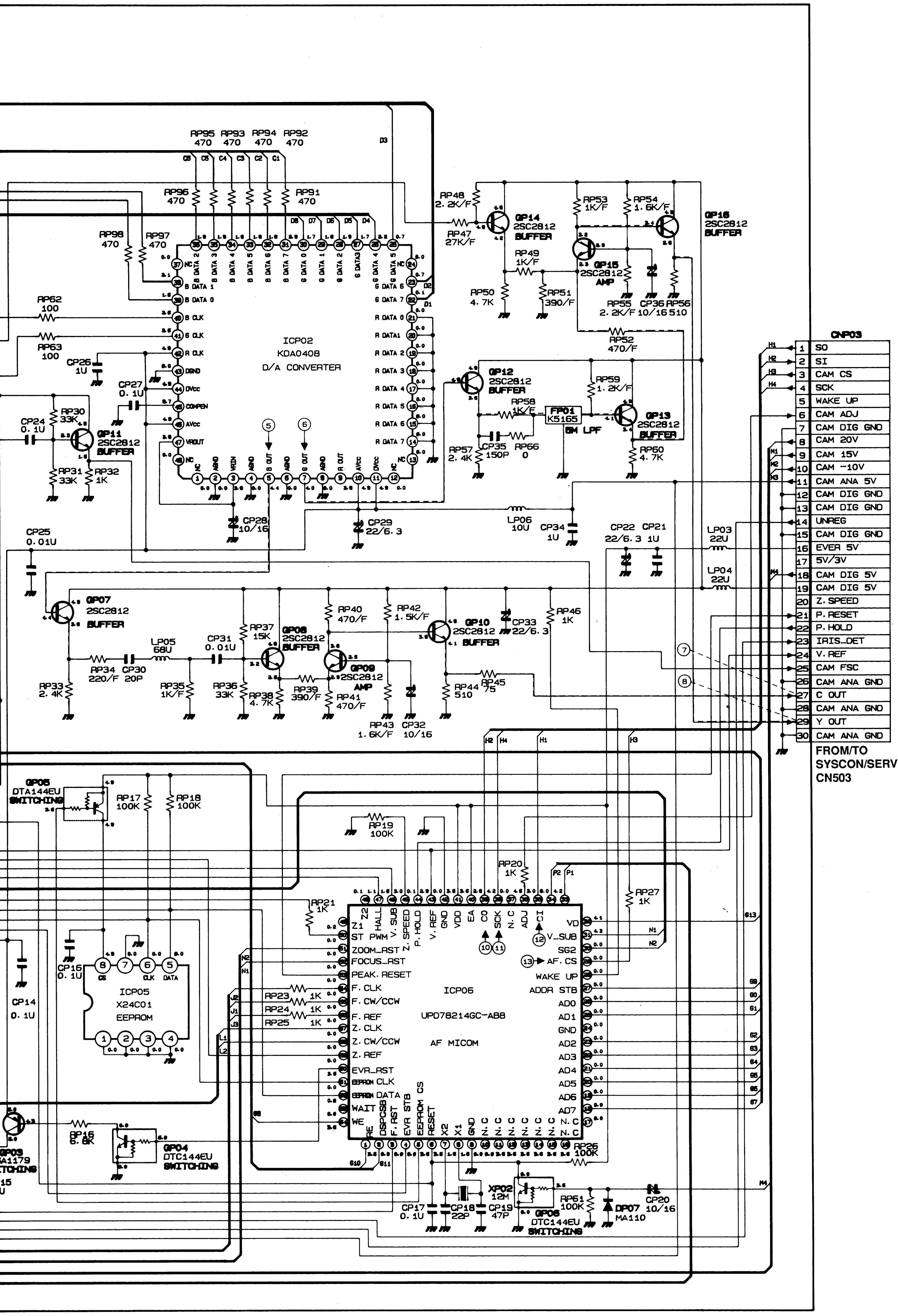
⑥



⑦

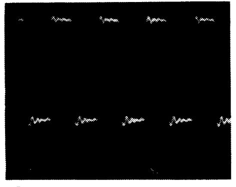





RP95 470
RP93 470
RP94 470
RP92 470
RP96 470
RP91 470
RP98 470
RP97 470
RP62 100
RP63 100
CP26 1U
CP27 0.1U
CP24 0.1U
RP30 33K
RP31 33K
RP32 1K
QP11 2SC2812 BUFFER
ICP02
KDA0408
D/A CONVERTER
B DATA 0
B DATA 1
B CLK
G CLK
R CLK
DGND
DVcc
COMPEN
AVcc
VROUT
R DATA 0
R DATA 1
R DATA 2
R DATA 3
R DATA 4
R DATA 5
R DATA 6
R DATA 7
G DATA 6
G DATA 7
B OUT
G OUT
R OUT
CP28 10/16
CP29 22/6.3
RP48 2.2K/F
RP47 27K/F
QP14 2SC2812 BUFFER
RP49 1K/F
RP50 4.7K
RP51 390/F
RP53 1K/F
RP54 1.6K/F
QP15 2SC2812 AMP
QP16 2SC2812 BUFFER
RP55 2.2K/F
CP36 10/16
RP56 510
RP52 470/F
QP12 2SC2812 BUFFER
RP59 1.2K/F
RP58 1K/F
FP01 K5165
5M LPF
QP13 2SC2812 BUFFER
RP57 2.4K
CP35 150P
RP66 0
RP60 4.7K
LP06 10U
CP34 1U
CP22 22/6.3
CP21 1U
LP03 22U
LP04 22U
CP25 0.01U
QP07 2SC2812 BUFFER
RP33 2.4K
RP34 220/F
CP30 20P
LP05 68U
RP35 1K/F
CP31 0.01U
RP36 33K
RP37 15K
QP08 2SC2812 BUFFER
RP38 4.7K
RP39 390/F
QP09 2SC2812 AMP
RP40 470/F
RP41 470/F
RP42 1.5K/F
RP43 1.6K/F
CP32 10/16
QP10 2SC2812 BUFFER
CP33 22/6.3
RP44 510
RP45 75
RP46 1K
CNP03
1 SO
2 SI
3 CAM CS
4 SCK
5 WAKE UP
6 CAM ADJ
7 CAM DIG GND
8 CAM 20V
9 CAM 15V
10 CAM -10V
11 CAM ANA 5V
12 CAM DIG GND
13 CAM DIG GND
14 UNREG
15 CAM DIG GND
16 EVER 5V
17 5V/3V
18 CAM DIG 5V
19 CAM DIG 5V
20 Z. SPEED
21 P. RESET
22 P. HOLD
23 IRIS_DET
24 V. REF
25 CAM FSC
26 CAM ANA GND
27 C OUT
28 CAM ANA GND
29 Y OUT
30 CAM ANA GND
QP05 DTA144EU SWITCHING
RP17 100K
RP18 100K
RP19 100K
RP20 1K
RP21 1K
RP27 1K
CP16 0.1U
CP14 0.1U
ICP05
X24C01
EEPROM
CS
CLK
DATA
RP23 1K
RP24 1K
RP25 1K
ICP06
UPD78214GC-AB8
AF MICOM
Z1
Z2
HALL
V. SUB
Z. SPEED
P. HOLD
V. REF
GND
VDD
EA
CO
SCK
N.C
ADJ
CI
ST PWM
ZOOM_RST
FOCUS_RST
PEAK. RESET
F. CLK
F. CW/CCW
F. REF
Z. CLK
Z. CW/CCW
Z. REF
EVR_RST
EEPROM CLK
EEPROM DATA
WAIT
WE
RE
DSPCSB
F. RST
EVR STB
EEPROM CS
RESET
X2
X1
VD
V_SUB
SG2
AF. CS
WAKE UP
ADDR STB
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
N.C
RP26 100K
RP16 6.8K
QP04 DTC144EU SWITCHING
QP03 A1179 SWITCHING
CP17 0.1U
CP18 22P
XP02 12M
CP19 47P
QP06 DTC144EU SWITCHING
RP61 100K
DP07 MA110
CP20 10/16

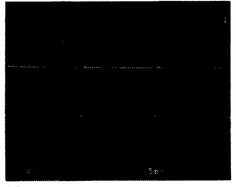
FROM/TO
SYSCON/SERVO
CN503

①



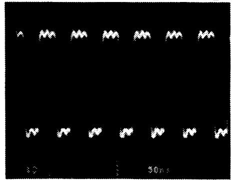
ICP01-2
P. CLK

②



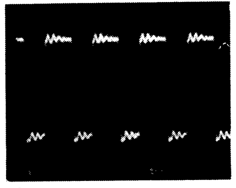
ICP01-136
VD

③



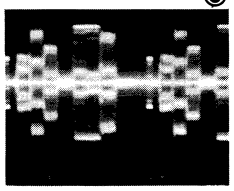
ICP01-114
C CLK

④



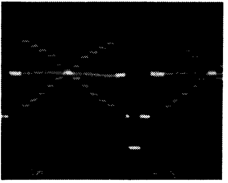
ICP01-112
Y CLK

⑤



ICP02-5
D/A CONV. C OUT

⑧



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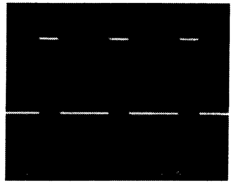

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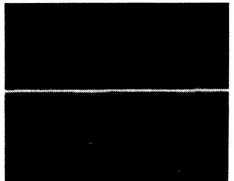

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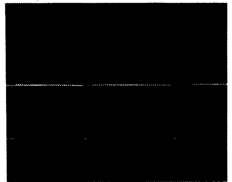

⑬